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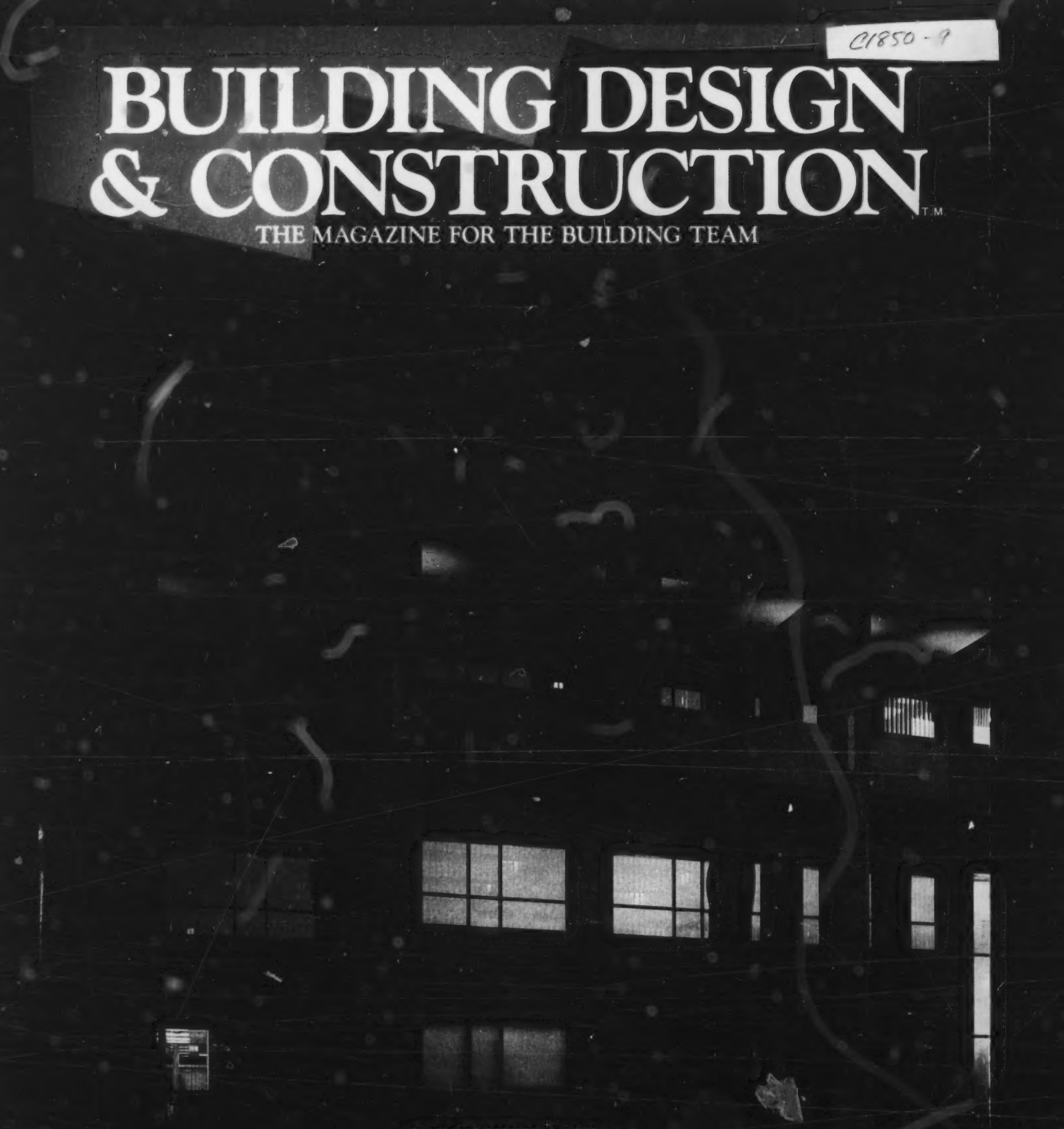
BUILDING DESIGN & CONSTRUCTION

T.M.

THE MAGAZINE FOR THE BUILDING TEAM



DECEMBER 1990

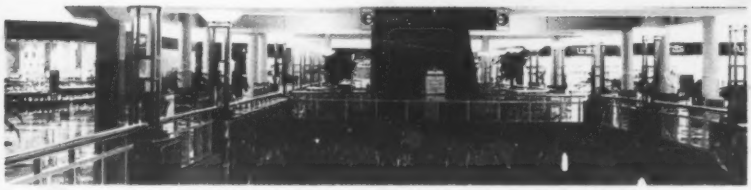
Suffolk County Jail
Design/build delivers jail on court's timetable

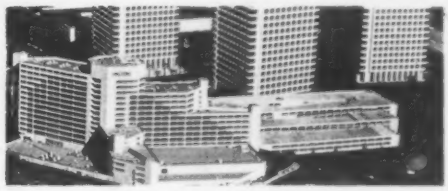
A CAHNERS PUBLICATION

BUILDING DESIGN & CONSTRUCTION

VOL. 31, NO. 12 THE MAGAZINE FOR THE BUILDING TEAM DECEMBER 1990

FEATURES





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THE MAGAZINE FOR THE BUILDING TEAM

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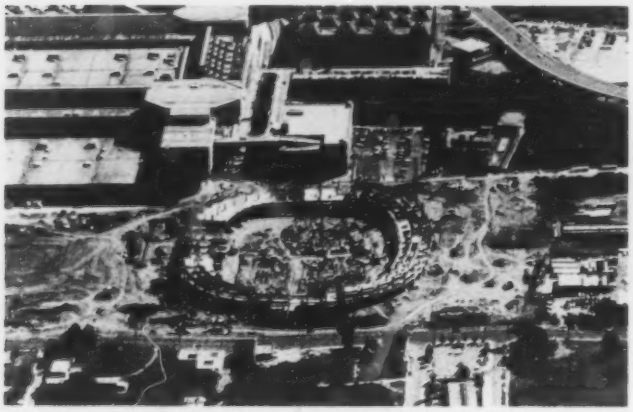

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BD&C's 12th Annual Owner/Developer 300

Industrials, retailers lead construction

By Christopher Olson, Managing Editor

Although the firms in *BD&C*'s Owner/Developer 300 survey have stayed comparatively buoyant in the wake of widespread overbuilding, few can continue to swim upstream for too long in today's real estate industry. Given the press coverage of the savings and loan crisis and, more recently, of the hardships of the celebrated Donald Trump, this fact is now readily apparent even to industry outsiders.

Thus it comes as no surprise that the overall construction volume for 1989 reported by the 300 firms included in this year's survey has declined by roughly 5 percent to $49.7 billion from the $52.4 billion reported by last year's 300 for 1988. As always, however, the performance of the entire group is not a clear reflection of the varied activity among the survey's seven categories. These categories include the Diversified Developers (80 members), Retail Developers (30), Industrials (50), Multifamily Developers (30), Hotels/Motels/Restaurants (40), Government Agencies (50) and Health Care Developers (20). Four of these categories — Industrials, Hotels/Motels/Restaurants, Retail and Health Care — actually recorded collective increases in their construction spending for 1989.

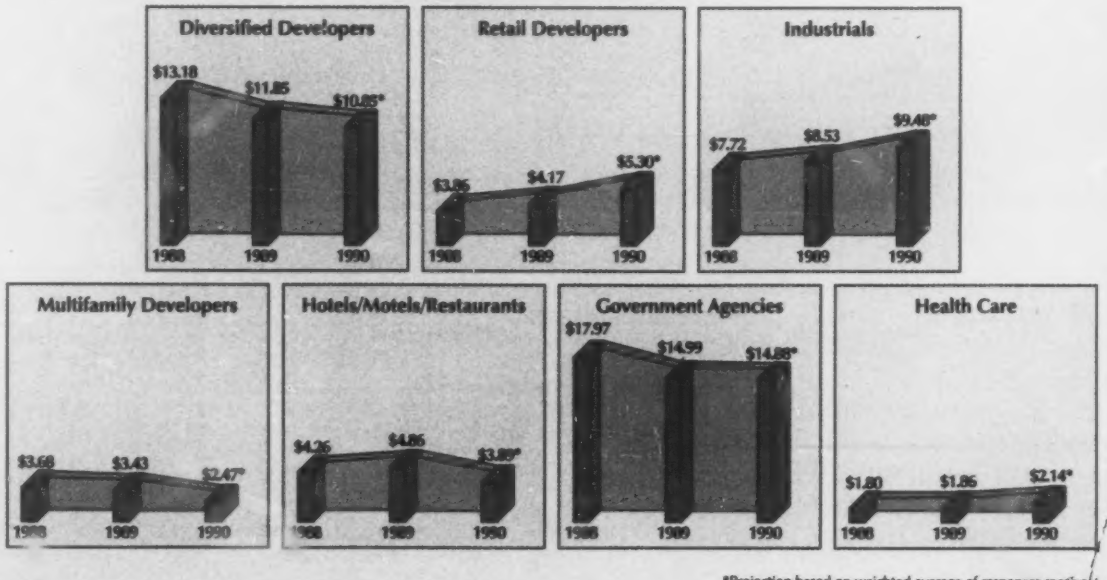
The top 50 industrial firms put $8.5 billion worth of construction in place in 1989, a 9.4 percent increase over 1988. As was the case in 1988, much of their construction activity in 1989 involved modernization and expansion programs aimed at increasing productivity, meeting increased demand and improving product quality and distribution. For some Industrials, these programs and expenditures are essentially ongoing; IBM, for example, perennially ranks among the top five firms. For other firms and other industries, construction-related spending is more cyclical. Becton Dickinson, for example, expects its capital expenditures to decline significantly in the next few years after completion of its program to increase capacity and consolidate facilities.

Competitive pressures drive retail construction

The Retail Developers put in place $4.17 billion of new construction and reconstruction in 1989, an 8 percent increase from the previous year. And despite weak sales by many large retailers in recent months, the Retail Developers are anticipating active construction/reconstruction programs this year. Eighteen of the 30 companies in the category

Construction Spending in Each Category

(Billions of Dollars)



*Projection based on weighted average of responses received

reported their 1990 planned expenditures, which averaged 27 percent higher than their 1989 activity.

Among the most active of the large retailers is fast-growing Wal-Mart Stores, which opened 145 new Wal-Marts and 18 Sam's Wholesale Clubs last year, and plans in the current year to open at least 165 Wal-Marts, 25 Sam's and one Hypermart USA. Appearing for the first time in the Retail Developer category is Toys R Us, which opened 75 new stores last year.

Attractive, up-to-date stores are viewed as essential to attract and retain customers in the highly competitive retail environment. J.C. Penney Co., for example, plans to allocate nearly 30 percent of its capital expenditures over the next five years for improvements to existing stores. K mart has announced a five-year, $2.3 billion new construction and reconstruction program that will involve 250 new full-size stores, 620 enlargements and the refurbishing of 1,260 units. The revitalized Montgomery Ward & Co. plans to open 53 new stores over the next year. A significant amount of retail activity involves smaller outlets. F.W. Woolworth Co.'s recent activity, for example, has focused on specialty stores, including its 6,000-sq.-ft. Woolworth Express units.

Despite weak demand for new lodging product in many markets, construction reported by the Hotel/Motel/Restaurant firms rose 13 percent in 1989. Nevertheless, the group is anticipating a decline in 1990. Reconstruction/renovation was a major component of the work reported by the hoteliers for 1989. Economy chains like La Quinta and Met Hotels, for example, are expanding their operations through acquisition and renovation of existing units rather than construction of new units.

The Diversified Developers, the group most affected by office overbuilding, reported a 10 percent decrease in construction for 1989. Those in the group who hazarded a projection for the current year are forecasting a further decline of 8.5 percent in total spending. Continuing a recent trend, several of the Diversified Developers reported that they have added various services or consulting specialties to their businesses during the last year, including asset and property management, site selection and site acquisition.

Although vacancy rates for multifamily housing have been falling due to the decrease in construction starts that followed the passage of the Tax Reform Act of 1986, the fundamentals of this market remain weak. The 30 Multifamily Developers reported a 6 percent decline in construction for 1989, which follows a 3 percent decline for 1988. Nevertheless, gradually rising rents are prompting some industry observers to forecast some improvement in construction starts for multifamily properties.

The construction volume reported by the 50 Government Agencies for 1989 was $14.9 billion, down from the previous year's total of $17.6 billion. Military-related construction by the U.S. Air Force, Naval Facilities Engineering Command and Army Corps of Engineers was down, although construction by other federal agencies remained at similar levels. Construction by state agencies also remained fairly constant in 1989, although increased spending on prison expansion programs and asbestos-removal projects were cited by several agencies, including the Illinois Capital Development Board and the New Jersey Division of Building and Construction. Spending by the Government Agencies during the current year is expected to remain level at $14.8 billion. □

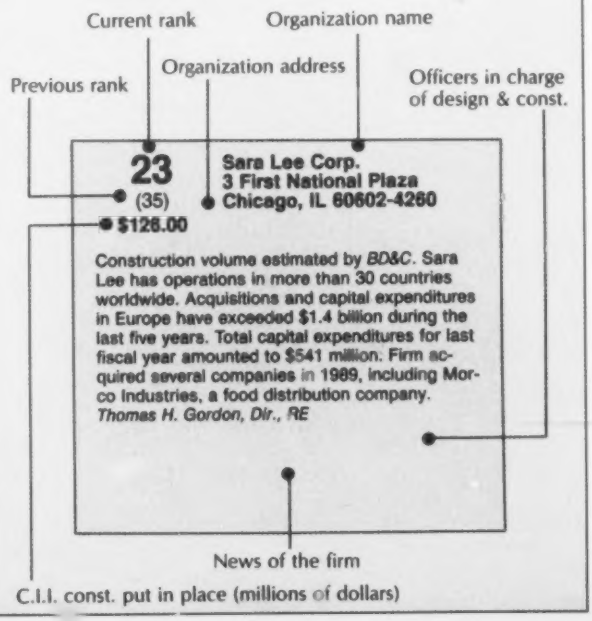
How the Owner/Developer 300 Survey Is Conducted

BD&C's Owner/Developer 300 survey encompasses the firms and agencies that placed the largest volumes of commercial, institutional and industrial (C.I.I.) buildings within the United States during 1989 or the most recent completed fiscal year. These 300 firms are divided into seven categories: 80 Diversified Developers, 30 Retail Developers, 50 Industrials, 30 Multifamily Developers, 40 Hotels/Motels/Restaurants, 50 Government Agencies and 20 Health Care Developers.

The firms and agencies are ranked within the appropriate category on the dollar value of the construction and reconstruction put in place for the given year. Only the base building or "hard" construction costs are included in the dollar value. For projects extending beyond one year, only the value of the construction put in place for the given year is reported. Every effort is made to exclude non-C.I.I. work, such as single-family detached housing, utility and process plants, roads and bridges, and nonbuilding equipment installed by owners or tenants.

To compile information on potential members of the Owner/ Developer 300, *BD&C* mails a questionnaire each year to approximately 1,500 organizations. In cases where *BD&C* was unable to obtain a response to the questionnaire, the value of a firm's construction was estimated on the basis of public information, such as expenditures printed in annual reports and/or regional building cost data applied to projects known to be under way. If a ranked firm's construction volume was estimated by *BD&C*, this fact is noted at the beginning of the entry provided for each firm.

The sample report below highlights the information presented in the survey.


Current rank
Organization name
Organization address
Previous rank
Officers in charge of design & const.
23
(35)
Sara Lee Corp.
3 First National Plaza
Chicago, IL 60602-4260
$126.00
Construction volume estimated by BD&C. Sara Lee has operations in more than 30 countries worldwide. Acquisitions and capital expenditures in Europe have exceeded $1.4 billion during the last five years. Total capital expenditures for last fiscal year amounted to $541 million. Firm acquired several companies in 1989, including Morco Industries, a food distribution company.
Thomas H. Gordon, Dir., RE
News of the firm
C.I.I. const. put in place (millions of dollars)

DIVERSIFIED DEVELOPERS

DEVELOPERS ANTICIPATE AN 8% DECLINE FOR 1990

In an increasingly competitive arena, many firms report adding asset management to their services

1
(1)
$2,194.00

Maguire Thomas Partners
1299 Ocean Ave.
Suite 1000
Santa Monica, CA 90401

This privately owned firm continues to specialize in mixed-use projects and corporate headquarters. Activity is focused in the Southwest and in Philadelphia. No design and less than 50 percent of construction is done in house. Building methods include fast-track scheduling and negotiated contracts for construction. Activity included 50 percent offices and 40 percent mixed-use projects. *Robert F. Maguire III, Mng. Ptnr.; James A. Thomas, Mng. Ptnr.*

***Jamboree Center, a five-building business center** in Irvine, Calif., is a Tooley & Co. project. Built on 46 acres, the center includes 2 million square feet of office space.*

2
(2)
$941.20

Trammell Crow Co.
3500 Trammell Crow Center
2001 Ross Avenue
Dallas, TX 75201-2997

Firm is also listed in the multifamily residential developer category. Trammell Crow is well-known for industrial developments, downtown and suburban office buildings, retail developments and mixed-use projects. Typically less than half of design and construction are done in house by this privately owned firm. *J. McDonald Williams, Mng. Ptnr.*

5
(21)
$425.56

Watt Industries
P.O. Box [illegible]
Los Angeles, CA 90406

Above figure excludes 35 percent of activity that consisted of single-family detached houses. Firm's specialties include retail and office projects, as well as multifamily residential. Activity was 30 percent multifamily residential, 20 percent offices and 15 percent retail. Seventy percent of what was built was sold and 30 percent was leased out. *J. Scott Watt, CEO; Ted Cox, Pres.*

8
(—)
$279.00

Hines Interests
Limited Partnership
2800 Post Oak Blvd.
Houston, TX 77056-6110

Firm is new to the listing this year. Above figure includes $15 million of reconstruction. Regional offices are located in Chicago, San Francisco, Atlanta and New York. Hines is best-known for office and mixed-use developments. Recent office projects include the 35-story 450 Lexington in New York City and the 52-story Figueroa at Wilshire in Los Angeles. All that is built is leased to others. *John A. Harris, Sr. VP*

3
(3)
$838.26

Lincoln Property Co.
3300 Lincoln Plaza
500 N. Akard
Dallas, TX 75201

Development activity is focused in the Midwest, on the Eastern Seaboard and in California. The firm specializes in high-rise and suburban office buildings, industrial structures and apartment buildings. Building methods include competitive bidding and negotiated contracts. Activity included 59 percent offices and 31 percent multifamily residential. *A. Mack Pogue, Chmn., Sr. Ptnr.; C. Preston Butcher, Regional Ptnr.; William C. Duvall, Regional Ptnr.*

6
(—)
$331.81

Hamilton Partners Inc.
300 Park Blvd. #100
Itasca, IL 60143

This firm, new to the listing, is best-known for suburban office parks in the Chicago area. Building methods include competitive bidding and negotiated contracts for construction. Activity included 55 percent offices, followed by 26 percent warehouse/distribution centers. Seventy-five percent of what was built was leased out, 23 percent was sold and 2 percent was occupied by the firm. *Allan Hamilton; Ron Lunt; John Wauterlek; Jim Sheridan, Ptnrs.*

9
(10)
$259.02

Weitz Corp.
800 Second Ave.
Des Moines, IA 50309

Recently completed projects include the $13 million Embassy Suites Hotel in Des Moines and Superstition Springs, a retail project in Mesa, Ariz. All construction but less than 50 percent of design is done in house. Weitz Co. Inc. in Des Moines and Weitz-Cohen Construction Co. in Denver are two construction subsidiaries. Firm builds offices, retail, retirement homes, hotels and health care facilities throughout the country. *Glen De Stigter, Pres., COO*

4
(5)
$580.00

Koll Co.
4343 Von Karman Ave.
Newport Beach, CA 92660

All construction is done in house by firm's subsidiary, Koll Construction of Newport Beach, Calif. The majority of activity involved offices, but firm also did laboratories and research facilities, restaurants, health care projects and high-tech industrial facilities. Major projects include the $15 million Richard Nixon Library in Yorba Linda, Calif., and the Nike World Campus in Portland, Ore. *Donald M. Koll, CEO; John L. Wills, Pres., Koll Construction*

7
(25)
$300.00

Tooley & Co.
11150 Santa Monica
Los Angeles, CA 90025

Activity was 90 percent offices and 10 percent high-tech industrial. Firm is best-known for office buildings on the West Coast. Recent projects include Jamboree Center in Irvine, Calif., and the completion of two high-rise office towers in West Los Angeles named Westwood Gateway. *William Tooley, Chmn.; Craig Ruth, Pres.;*

10
(18)
$245.00

Birtcher
Construction Ltd.
24051 Shelley Road
Laguna Niguel, CA 92656

Firm is known for business parks, offices and industrial buildings on the West Coast. No design but all construction is done in house. Activity included 30 percent retail and 28 percent offices. Projects include the $40 million Lakeshore Towers in Irvine, Calif., and Reflections at Summer Creek, a multifamily development in Beaverton, Ore. Eighty percent of developed space was leased and 20 percent was sold. *Andrew L. Youngquist, Pres.*

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DIVERSIFIED DEVELOPERS

11 (—) **$220.00**
Forest City Enterprises Inc.
10800 Brookpark Road
Cleveland, OH 44130-1199

Firm is new to the listing, but its residential divisions have been listed in past years in the Multifamily Developers category. Subsidiaries of this publicly traded firm include Forest City Commercial Construction Co. and Forest City Residential Development Co. Activity included 37.5 percent retail and 25 percent offices. Activity is focused in cities such as New York, Boston, Cleveland, Los Angeles and San Francisco. *James Ratner, Pres.*

12 (—) **$217.17**
Tishman Speyer Properties
520 Madison Ave.
New York, NY 10022

Firm is new to the listing this year. Tishman Speyer Properties develops high-rise urban office buildings. Regional offices are in San Francisco, Chicago, Boca Raton, Fla., and Frankfurt, Germany. Activity included 72 percent offices and 26 percent multifamily residential. Projects include 500 West Monroe, a 960,000-sq.-ft. office building in Chicago, and the renovation of the 1301 Avenue of the Americas building in New York City. *Charles DeBenedittis, Mng. Dir.*

13 (12) **$209.00**
Prudential Property Co. Inc.
751 Broad St.
Newark, NJ 07102-3777

Firm is a real estate investment subsidiary of Prudential Insurance Co. of America. Above figure includes $9 million of reconstruction. No design or construction is done in house. Among building methods used are construction management services from outside firms and negotiated contracts for design. Projects include the Hotel Nikko in Atlanta and the Prudential Business Campus in Parsippany, N.J. *Brian J. Strum, Chmn.; Ronald L. Rayevich, Pres.*

14 (24) **$195.94**
Gosnell Builders
2728 N. 24th St.
Phoenix, AZ 85008-1099

Gosnell is known for mixed-use master-planned communities and resorts. Most of its development has been in the Pacific Southwest, but the firm began developing properties in Las Vegas and in Hawaii during the past year. All design and construction is done in house. Eighty-eight percent of what was built was leased. Two hotel projects are the Comfort Suites in Maui, Hawaii, and the Emerald Springs in Las Vegas. *Rick Kafka, Sr. VP, RE & Const.*

15 (16) **$183.00**
Opus Corp.
9900 Bren Road, East
P.O. Box 150
Minneapolis, MN 55440

All construction and more than 50 percent of design are done in house. Activity was 86 percent offices, followed by 10 percent hotel/motel projects. Firm also develops distribution and light manufacturing buildings. More than half of what is developed is sold and 45 percent is leased. *Gene Haugland, Pres., Opus Corp.; Keith Bednarowski, Pres., Opus U.S. Corp.*

16 (20) **$168.00**
Crown American Corp.
Pasquerilla Plaza
Johnstown, PA 15907

Firm develops shopping malls, hotels and office buildings. Activity included 88 percent retail, 7 percent hotel/motel and 5 percent offices. Recent hotel projects include the Comfort Inn in Oak Ridge, Tenn., and two Holiday Inns, one in Frederick, Md., and one in York, Pa. Among the firm's shopping mall projects are the Twin City Mall in Bristol, Va., the Schuylkill Mall in Frackville, Pa., and the Oak Ridge Mall in Oak Ridge, Tenn. *Mark Pasquerilla, Pres.*

17 (8) **$167.65**
Zeckendorf Co. Inc.
55 East 59th St.
New York, NY 10022

Construction volume estimated by *BD&C*. Firm is well-known for major office, retail and hotel projects. Typically no construction is done in house. Firm uses construction management from outside firms and negotiated contracts for construction and design. A majority of what is built is leased to others and a portion is also sold. *William Zeckendorf Jr., Pres.*

18 (—) **$163.60**
Duke Associates
8888 Keystone Crossing
Suite 1200
Indianapolis, IN 46240

Firm is new to the listing this year. No design but all construction are done in house. Construction subsidiary is Duke Construction Management of Indianapolis. Duke develops industrial properties, suburban and downtown office buildings and retail malls in the Midwest. Offices were more than 58 percent of activity, followed by 36 percent warehouses and distribution centers. *Gary Burk, Pres., Duke Construction Management Inc.*

19 (31) **$161.00**
Tishman Realty & Construction Co. Inc.
666 Fifth Ave.
New York, NY 10103

Firm added three new subsidiaries in the last year: Tishman Construction Corp. of Massachusetts, Tishman Construction Corp. of Washington, D.C., and Tishman Hotel Corp. No design but all construction are done in house. Firm completed two Orlando, Fla., hotels, the Walt Disney World Dolphin and the Walt Disney World Swan. *John L. Tishman, Chmn., Pres., CEO; Abraham S. Bolsky, Exec. VP; Irwin Miller, Exec. VP*

20 (23) **$160.00**
Morton Buildings
Box 216
Watseka, IL 60970

More than 50 percent of design and construction are done in house. This privately owned firm also uses design/build and construction management from outside firms, competitive bidding and negotiated contracts for construction. All that is built is sold. *Ronald J. Sanders, Mgr.*

21 (14) **$155.00**
Transpacific Development Co.
2377 Crenshaw Blvd.
Suite 300
Torrance, CA 90501-3325

Construction volume estimated by *BD&C*. Firm is known for office towers and large-scale mixed-use developments in California, Oregon and Phoenix. Typically no design or construction is performed in house. Design/build, competitive bidding and negotiated contracts are firm's usual construction methods. *Shuri Curci, Chmn.*

22 (—) **$150.00**
Eichner Properties
156 W. 56th St.
New York, NY 10019

Firm is new to the listing this year and specializes in mixed-use and high-rise residential projects in New York City. Offices were 70 percent of activity, followed by 30 percent mixed-use projects. No design or construction performed in house. Building methods include construction management from an outside firm and negotiated contracts and competitive bidding for construction. *Leslie Eichner, VP Bldg. Mgmt. VP; Mitch Mailman, Dir., Const.*

23 (9) **$138.71**
Paragon Group Inc.
7557 Rambler Road
Dallas, TX 75231

Above figure excludes the 51 percent of activity that was single-family houses. Besides residential projects, Paragon specializes in office, retail and high-tech industrial developments. No design but more than 50 percent of construction is performed in house. Negotiated contracts for construction are also used. One recent project is Kings Festival, an $11.3 million retail project in Myrtle Beach, S.C. *Jerry J. Bonner, Treas.*

24 (11) **$136.00**
Beacon Cos.
50 Rowes Wharf
Boston, MA 02110

Activity was 53 percent hotel/motel, followed by 31 percent office. Warehouses and distribution centers were 10 percent of activity and retail was 6 percent. Subsidiary is Beacon Construction Co. in Boston. Less than 50 percent of design and more than 50 percent of construction are done in house. Firm is working on Guest Quarters Suite Hotels in Waltham, Mass., Santa Monica, Calif., and Chicago. *Norman B. Leventhal, Chmn.*

25 (28) **$122.90**
Charles E. Smith Cos.
2345 Crystal Drive
Arlington, VA 22202

Above figure includes $2.5 million in reconstruction. This privately owned firm does no design or construction in house. Activity was 53 percent offices, 26 percent retail and 21 percent hotel/motel. All that is built is leased to others. A current project is Worldgate in Fairfax, Va. The development includes office buildings, retail space and a hotel. The firm is also renovating the Crystal Mall in Arlington, Va. *Marvin Dekelboum, Exec. VP*

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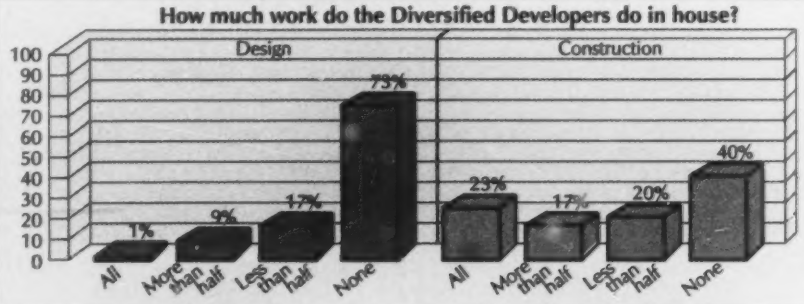
26 (—) **$117.00**

Childress Klein Properties
999 Peachtree St., N.E., #1200
Atlanta, GA 30309

Firm is new to the listing this year. Specialties include downtown office towers, suburban shopping centers and office parks and industrial business parks. Activity was 45 percent retail, 27 percent warehouses/distribution centers, 22 percent offices and 6 percent hotel/motel. Ninety percent of what is built is leased to others and 10 percent is sold. *J. Donald Childress, Mng. Ptnr.*

How much work do the Diversified Developers do in house?



27 (30) **$103.00**

Hawthorne Realty Group
10275 W. Higgins Road
Suite 200
Rosemont, IL 60018

Above figure includes $6 million of reconstruction. Construction subsidiary is Interior Development Inc. of Rolling Meadows, Ill. Less than half of design and construction is done in house. Firm's main development focuses are on suburban mixed-use developments and hotel, office and retail projects in the Chicago area. Company is also expanding into Hawaii. *Robert Finke, Exec. VP*

31 (7) **$93.20**

Galbreath Co.
180 East Broad St.
Columbus, OH 43215

Formerly known as John W. Galbreath & Co. Above figure includes $5.7 million of reconstruction. Firm develops corporate headquarters, office buildings and mixed-use projects. Developments include Bank One Center in Cleveland, Swiss Bank Tower in New York City and Sun Bank Center in Fort Lauderdale, Fla. Activity was 95 percent offices. No design or construction is done in house. *Daniel M. Galbreath, Pres., Chmn.; Donald W. Burbrink, Exec. VP*

35 (26) **$83.30**

Rouse Co.
10275 Little Patuxent Parkway
Columbia, MD 21044-3456

Construction volume estimated by *BD&C*. This publicly traded firm is well-known for retail, mixed-use projects and office buildings throughout the U.S. Major projects include Arizona Center in Phoenix and a headquarters complex, Blue Cross and Blue Shield of Maryland, in Owings Mills, Md. Typically, Rouse performs less than 50 percent of design and construction in house. *Anthony F. Albanese, Dir., Const.*

28 (69) **$100.00**

AIG Realty
72 Wall St.
New York, NY 10270

Parent firm is American International Group Inc. of New York City. AIG performs no construction and less than 50 percent of design in house. Building methods used include fast-track scheduling and construction management from an outside firm. Activity was 96 percent offices and 4 percent warehouse/distribution centers. *Norman Cicelsky, Dir., Arch.*

32 (38) **$91.00**

Fifield Realty Corp.
225 W. Washington, #1500
Chicago, IL 60606

Major projects include Columbia Centre IV in Rosemont, Ill., and the Regent on LaSalle, a 40-story apartment tower in Chicago. Construction subsidiary is Interior Construction Corp., Chicago. Activity was 70 percent offices, followed by 10 percent hotel/motel. The remainder was divided evenly among high-tech industrial, warehouses, retail and multifamily. *Steven D. Fifield, Chmn., CEO; Robert E. Smietana, Exec. VP, COO*

36 (22) **$83.00**

Homart Development Co.
55 W. Monroe St.
Chicago, IL 60603

Firm is subsidiary of Sears, Roebuck and Co., Chicago, Ill., and develops shopping centers and suburban office buildings. Activity was divided between offices (57 percent) and retail (43 percent). Homart's 490,000-sq.-ft. Bay City Mall in Bay City, Mich., will be complete in March 1991 and an expansion to the Vista Ridge Mall in Lewisville, Texas, will be done in August 1991. *Adalbert Drogosz, Sr. VP, Design & Const.*

29 (—) **$100.00**

Oliver Carr Co.
1700 Pennsylvania Ave., N.W.
Washington, DC 20006

Firm is new to the listing this year and is best-known for office and mixed-use projects in Washington, D.C. Negotiated contracts are used for both design and construction. Activity was 100 percent offices. Projects include the MCI Headquarters and the AARP Headquarters, both in Washington, D.C. Firm opened regional offices in Arlington and Alexandria, Va. *James S. Williams, VP & Regional Ptnr.*

33 (55) **$88.68**

West*Group Inc.
1600 Anderson Road
McLean, VA 22102

The majority of activity involved offices and warehouses/distribution centers in northern Virginia and Maryland. All construction and less than half of design are done in house. This privately owned firm uses design/build services from outside firms. Projects include West*Mac, a 405,000-sq.-ft. office building in Tysons Corner, Va., and West*Farm, an industrial project in Silver Springs, Md. *G.T. Halpin, Pres.; C.B. Ewing Jr., Exec. VP*

37 (11) **$82.11**

Prentiss/Copley Investment Group
1717 Main St.
Dallas, TX 75201

Construction volume estimated by *BD&C*. Firm is most active in Washington, D.C., Virginia, Chicago, New Jersey and California and is well-known for office and industrial parks. One of the firm's major projects is IBM's Austin office. The seven buildings will be finished in 1991. Through its asset management division, Prentiss/Copley also manages and leases nearly 8 million square feet for other owners and investors. *John Lehigh, VP, Const.*

30 (13) **$99.00**

Hartz Mountain Industries Inc.
400 Plaza Drive
P.O. Box 1411
Secaucus, NJ 07094

Construction volume estimated by *BD&C*. Firm is best-known for mixed-use developments in New Jersey. Typically, 50 percent of design, but less than 50 percent of construction is done in house. Typical construction methods include design/build from an outside firm, competitive bidding and negotiated contracts. All that is built is usually leased. *Keith Michels, VP Design*

34 (42) **$85.00**

DeMatteis Organization
820 Elmont Road
Elmont, NY 11003

Construction volume estimated by *BD&C*. Firm is well-known for offices, mixed-use projects and correctional facilities. Typically, this privately owned firm does no design but all construction in house. Building methods include competitive bidding and negotiated contracts for construction. *Richard DeMatteis, Pres.*

38 (27) **$80.62**

Equitable Real Estate Investment Management Inc.
3414 Peachtree Road, N.E.
Suite 1000
Atlanta, GA 30326

Above figure includes more than $26 million in reconstruction. Firm is best-known for its urban and suburban office developments throughout the U.S. No design or construction is done in house. Building methods include negotiated contracts and competitive bidding for construction and construction management from an outside firm. *Sam J. Steser, VP, Devel. & Const.*

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DIVERSIFIED DEVELOPERS

39 (—) **$79.00**
Prometheus Development Co. Inc.
2600 Campus Drive, Ste. 200
San Mateo, CA 94403

Firm is new to the listing this year. Calprom Inc. of San Mateo is construction subsidiary. Activity was 41 percent offices, 35 percent mixed-use projects and 24 percent multifamily residential. Less than 50 percent of design but more than 50 percent of construction is done in house. Other building methods include competitive bidding and negotiated contracts for construction. *Mark R. Kroll, Sr. VP; Joseph F. Martignetti, VP*

40 (—) **$78.50**
Kirco Development Interests Columbia Center
201 W. Big Beaver Road
Suite 1200
Troy, MI 48084

Firm is new to the listing this year. No design is done in house but all construction is performed by firm's subsidiary, Kirco Construction Services Group. Specialties include office and build-to-suit projects in the Midwest and West. Activity included 67 percent office, followed by 20 percent high-tech industrial. *Ronald D. Verduin, VP, Const.; Douglas E. Winkworth, Exec. VP, Devel.*

41 (—) **$75.00**
Robert Martin Co.
100 Clearbrook Road
Elmsford, NY 10523

Firm is new to the listing this year. Above figure includes $25 million of reconstruction. Activity was 35 percent high-tech industrial, 30 percent multifamily residential, 25 percent offices and 10 percent retail. Less than half of design but all construction is done in house. Firm completed three buildings at the 75-acre Mid-Westchester Executive Park in Mount Pleasant, N.Y. *Jerome B. Rockhill, VP Plng. & Design; Richard Pagliaro, VP, Const.*

42 (44) **$68.75**
James-Lewis Corp.
1301 Lancaster Ave.
Berwyn, PA 19312

Above figure excludes the 45 percent of activity that was single-family detached houses. Firm is known for residential developments and shopping centers. No design but all construction is performed in house. Ninety-two percent of projects were built for sale, and 7 percent for lease. *Lewis J. Brandolini, Pres.; James B. Brandolini, Exec. VP*

43 (50) **$65.70**
Rosen Associates
333 Jericho Turnpike
Jericho, NY 11753

Above figure includes more than $43 million in reconstruction. Subsidiaries include Androsh Corp. and Rosen Associates Management Corp., both of Jericho, N.Y. Firm is well-known for shopping centers throughout the U.S. All that is developed is leased. More than 50 percent of construction is done in house. Other construction methods include design/build, competitive bidding and negotiated contracts. *Robert A. Rosen, Pres.; Anthony Virga, Dir., Const.*

44 (46) **$65.00**
Centennial Cos.
8614 Westwood Center Drive
Vienna, VA 22182

Construction subsidiary is Centennial Contractors Inc. Firm is known for office projects in the Washington, D.C., and northern Virginia areas. In the past year, firm has added a financing division, Centennial Funding Corp. Ninety-eight percent of what is built is leased, 1 percent is occupied by the company and 1 percent is sold. *Pete Scamardo, Pres.; David Ross, Sr. VP; Richard Fassett, Dir., Devel.*

45 (—) **$61.14**
Alter Group
3000 Glenview Road
Wilmette, IL 60091

Firm is new to the listing this year. Subsidiary is Alter Design Builders. Firm is known for business and industrial parks and corporate build-to-suit facilities. Activity included 42 percent warehouses/distribution centers and 33 percent offices. Alter is organizing a new affiliate, Alter Real Estate Resources, to provide pre-construction services to corporate clients. *Randolph F. Thomas, Sr. VP, Alter Group; Morton R. Borkan, Pres., Alter Design Builders*

46 (48) **$60.00**
Landmarks Group
One Concourse Parkway
Suite 600
Atlanta, GA 30328-5346

Construction subsidiary is Landmarks Tenant Construction Services. Major projects in the past year included Promenade Two and Concourse Corporate Center Six, both in Atlanta. Activity was 99 percent offices and 1 percent retail. Firm performs no design and less than 50 percent of construction in house. Negotiated contracts are used for design and construction. *W. Ed Walker, VP, Devel.*

47 (—) **$60.00**
Industrial Developments International
950 E. Paces Ferry Road
Suite 875
Atlanta, GA 30326

Firm is new to the listing this year. Parent firm is Kajima International Inc. of Fort Lee, N.J. Activity was 34 percent warehouses and distribution centers. The remaining activity was divided evenly between high-tech industrial and traditional manufacturing/industrial facilities. Recent projects include Medlock Business Center in Gwinett County, Ga., and Northwest Business Center in Indianapolis. *Henry D. Gregory, Pres., CEO*

48 (43) **$60.00**
Stein & Co.
227 W. Monroe
Suite 3400
Chicago, IL 60606

Firm is best-known for office buildings in the Chicago area. No design or construction is done in house by this privately owned firm. AT&T Corporate Center, a 1.7 million-sq.-ft. office tower in Chicago, was completed last year. Firm's newest Chicago projects are the USG Building, a 34-story tower that will be finished in 1992, and the Federal Office Building, an 800,000-sq.-ft. structure for the General Services Administration. *Richard A. Stein, CEO*

49 (37) **$59.00**
Bellemead Development Corp.
280 Corporate Center
4 Becker Farm Road
Roseland, NJ 07068

Above figure includes $7 million of reconstruction. Parent firm is Chubb Corp. of Warren, N.J. Subsidiaries are B.C.C. Design Group Inc. and Bellemead Construction Corp., both of Roseland, N.J. Waterview 3 in Parsippany, N.J., and the PPG Industries building in Troy, Mich., were completed during 1989. Activity was 90 percent offices and 10 percent warehouse/distribution centers. *James Kearney, Sr. VP*

50 (45) **$52.20**
Centre Development Co. Inc.
P.O. Box 802087
Dallas, TX 75380

Firm develops office and industrial properties and is well-known for build-to-suit projects. Less than half of construction is done in house. Firm also uses design/build services, competitive bidding and negotiated contracts for construction. Activity included 60 percent warehouses/distribution centers, 20 percent offices and 10 percent multifamily residential. *Jeffrey L. Swope, Ptnr., Exec. VP; Michael D. DeGrazier, Ptnr., Exec. VP*

51 (—) **$50.00**
Marathon U.S. Realties Inc.
630 Dundee Road
Suite 233
Northbrook, IL 60062

This publicly traded firm is new to the listing this year. Parent company is Canadian Pacific of Montreal. Marathon does no design and less than 50 percent of construction in house. Building methods include construction management from an outside firm, competitive bidding and negotiated contracts. Activity was 70 percent offices and 30 percent retail. *Howard Builta, VP; Bill Berndt, Proj. Mgr.*

52 (53) **$50.00**
Miglin-Beitler Inc.
Madison Plaza
181 W. Madison St.
Suite 3900
Chicago, IL 60602

Firm recently completed the Paine Webber Tower, a 1.2-million-sq.-ft. office tower in Chicago, designed by Cesar Pelli. Miglin-Beitler is well-known for office projects in the Chicago area. Firm plans to expand to other cities in the Midwest and on the East Coast. No design but all construction is done in house. *Raymond Chin, Sr. VP, Const.*

53 (78) **$50.00**
Rubloff Real Estate and Capital Inc.
111 W. Washington St.
Suite 1700
Chicago, IL 60602

Lake Michigan Construction Co. is firm's construction subsidiary. Offices accounted for all activity and 100 percent of what was built was leased. Less than one-half of construction and no design is done in house. Negotiated contracts are used for both. Two of firm's major Chicago projects are 100 N. Wacker and 100 N. Riverside. *J. Purinton, Sr. VP; M. McCullough, Sr. VP, Const.*

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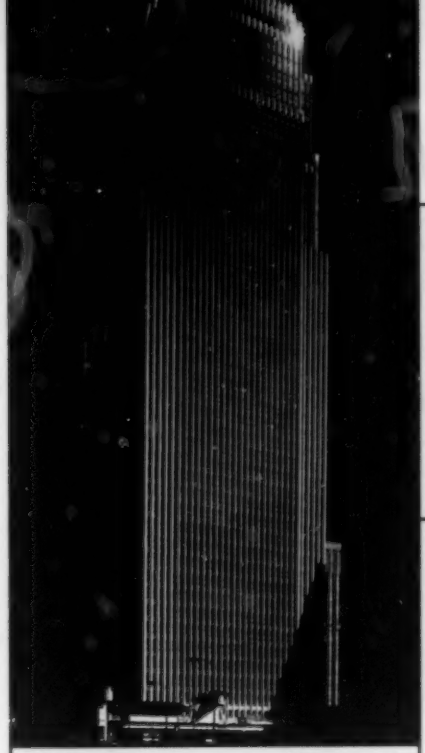

***Miglin-Beitler's newest addition** to the Chicago skyline is the Cesar Pelli-designed, 50-story 181 W. Madison building.*

DIVERSIFIED DEVELOPERS

57 (33) **$40.00**
Amerimar Realty Co.
210 W. Rittenhouse Square
4th Floor
Philadelphia, PA 19103

Above figure includes $10 million in reconstruction. No construction or design is done in house. Competitive bidding and negotiated contracts are used for construction. Activity was 75 percent mixed-use projects and 25 percent multifamily residential developments. Of the space developed, 95 percent was sold. In the past year, the company began developing properties in the Caribbean. *William F. Connor, VP*

58 (58) **$40.00**
Chiofaro Co.
One International Place
Suite 4600
Boston, MA 02110

Privately owned firm does no construction or design in house. Building methods include design/build from an outside firm, competitive bidding and negotiated contracts for construction. Offices account for 95 percent of activity, followed by manufacturing/industrial facilities (5 percent). Ninety-nine percent of activity involved buildings built for lease to others. Two International Place, a Boston office and retail facility, is scheduled to be complete in mid-1992. *Theodore A. Oatis, Ptnr.*

62 (—) **$34.36**
High Associates
P.O. Box 10008
Lancaster, PA 17605-0008

Firm is new to the listing this year. Parent company is High Industries Inc. of Lancaster, Pa. High Associates has two subsidiaries, Greenfield Architects and High Construction Inc., both of Lancaster. Firm is known for business parks and multifamily residential projects. Activity included 30 percent offices, 25 percent warehouses and distribution centers and 20 percent multifamily residential. *Calvin High, Sr. VP, High Industries; Edward S. Hoover, Pres., High Associates*

63 (74) **$34.17**
LaSalle Partners Development Ltd.
11 S. LaSalle St.
Chicago, IL 60603

Parent firm is LaSalle Partners Ltd. Above figure includes $6.8 million of reconstruction. Firm is known for suburban office buildings in Chicago, Washington, D.C., and Los Angeles. Activity included 77 percent offices and 20 percent mixed-use projects. All of developed space was leased. No design and less than 50 percent of construction is done in house. *Hossein Youssefi, Mng. Dir.; Jack Train, Sr. VP*

54 (60) **$49.50**
TOLD Corp.
1701 Pacific Ave.
Suite 200
Oxnard, CA 93033-1887

Firm opened new offices in Orange County, Calif., and in Seattle. Construction subsidiary is TOLD Construction Co. Inc. of Camarillo, Calif. Activity included 33 percent traditional manufacturing/industrial facilities, 30 percent offices and 20 percent warehouse/distribution centers. Seventy percent of developed space was leased and 30 percent was sold. *Vincent P. Hall, Pres.; Trent Lyon, VP Devel.*

59 (—) **$40.00**
J.H. Snyder Co.
Penthouse 30 Museum Square
5757 Wilshire Blvd.
Los Angeles, CA 90036

Firm is new to the listing this year. Above figure includes $10 million in reconstruction. Firm specializes in developing offices in the Los Angeles area. Activity was 85 percent offices and 15 percent multifamily residential projects. Of the space developed, 85 percent was leased out and 15 percent was sold. Water Garden, an office development in Santa Monica, Calif., is a recent project. *Jerome H. Snyder, Ptnr.; Milt Swimmer, Ptnr.*

64 (—) **$32.00**
Tishman West Cos.
10960 Wilshire Blvd.
Los Angeles, CA 90024

Firm is new to the listing this year and is known for high-rise and mid-rise office buildings in the western U.S. New offices were opened in Atlanta and London. Building methods include design/build from an outside firm, construction management from an outside firm, and competitive bidding and negotiated contracts for construction. Offices were 100 percent of activity and all developed space was leased. *Jim Sinsheimer, First VP*

55 (66) **$43.00**
Schostak Bros. & Co. Inc.
32233 Gratiot
Rosenville, MI 48066

Above figure includes $6 million in reconstruction. Firm is well-known for developing retail centers in the Midwest. Activity was 60 percent mixed-use projects, 20 percent offices and 20 percent retail. Building methods include design/build from an outside firm, construction management from an outside firm and competitive bidding and negotiated contracts for construction. *Stephen J. Duczynski, VP, Dir., Devel.*

60 (51) **$39.10**
Catellus Development Corp.
20 Mission St., 30th Floor
San Francisco, CA 94105

This publicly traded firm, formerly known as Santa Fe Pacific Realty, specializes in developing industrial buildings. The majority of activity is in Southern California. Activity was 88 percent high-tech industrial, 9 percent offices and 3 percent retail. No construction or design is done in house. One of Catellus' projects is PacifiCenter Anaheim, a mixed-use facility in Orange County, Calif. *Vernon B. Schwartz, Pres., CEO; Jeffrey K. Gwin, VP, Devel.*

65 (—) **$30.00**
Hiffman Shaffer Anderson Inc.
118 S. Clinton St.
Chicago, IL 60606

Above figure includes $10 million in reconstruction. This privately owned firm is new to the listing this year and is known for industrial development in the Midwest. Activity was 75 percent warehouses and distribution centers and 25 percent high-tech industrial. Firm performs no design and less than one-half of construction in house. Of the developed space, 80 percent was leased and 20 percent was sold. *Mark Christensen, VP*

56 (47) **$41.65**
Boston Properties
8 Arlington St.
Boston, MA 02116

Above figure excludes the 15 percent of activity that involved parking structures. Activity included 80 percent offices and 5 percent multifamily residential developments. Firm is known for Class A office buildings in Boston, New York City and Washington, D.C. All property that was developed was leased out. *Edward H. Linde, Pres.; Robert B. Swett, Exec. VP; David Barrett, Sr. VP*

61 (59) **$35.00**
Martin Selig Real Estate
1000 Second Ave.
Suite 1800
Seattle, WA 98104

Firm develops office buildings in the Seattle area. Recent Seattle projects include the $300 million Met Park III, the $600 million 800 Second Avenue and the $275 million 2500 Fourth Avenue. All activity involved offices that were leased to others. More than 50 percent of design is done in house and firm also uses design/build services from an outside firm. *Martin Selig, Owner*

66 (61) **$30.00**
Welsh Cos. Inc.
11200 West 78th St.
Eden Prairie, MN 55344

Above figure includes $10 million in reconstruction. Firm has design and construction subsidiaries, PM Design and Welsh Construction Co., both of Eden Prairie. Firm also uses design/build services from an outside firm and competitive bidding for construction. Activity was 30 percent multifamily, 30 percent retail, 20 percent offices and 20 percent warehouses/distribution centers. *E. Paul Dunn, Exec. VP*

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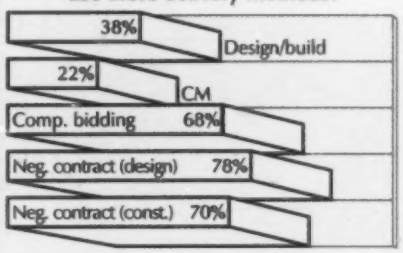
DIVERSIFIED DEVELOPERS

67 (63) **$29.28**
Spaulding & Slye Co.
25 Burlington Mall Road
Burlington, MA 01803

Spaulding & Slye Construction Co. is firm's construction subsidiary. Firm is known primarily for its office building developments in Boston and Washington, D.C. Firm also manages more than 9 million square feet of office and industrial space. Activity included 93 percent offices. Spaulding & Slye recently completed Shady Grove Executive Center 4 and 5 in Rockville, Md. *James B. Karman, Pres.; John S. Konopka, Sr. VP, Const. Operations*

How many of the Diversified Developers use these delivery methods?



76 (67) **$18.00**
JBG Cos.
1250 Connecticut Ave., NW
Washington, DC 20036

Above figure includes $4 million of reconstruction. No construction or design is performed in house. Current projects include the 720,000-sq.-ft. Geico Headquarters in Bethesda, Md., and the Cross Creek Office Park in Loudoun County, Va. Negotiated contracts and competitive bidding are used for construction. Activity was 95 percent offices and 5 percent retail. *Robert H. Braunohler, Prin.; Daniel P. McKim, VP*

68 (57) **$28.88**
Bramalea USA,
Urban Properties Inc.
901 Main Street
Suite 5000
Dallas, TX 75202

Parent firm is Bramalea Ltd. of Toronto. No design or construction is performed in house by this publicly traded firm. Firm develops office buildings and office parks throughout the U.S. Activity was divided between offices (75 percent) and retail (25 percent). All developed space was leased. *Douglas N. Salter, Pres.; Robert Sharp, Exec. VP*

72 (70) **$20.00**
Crown Life Insurance Co.
160 Bloor St., 10th Floor
Toronto, Ontario M4W 1B9
Canada

No design or construction is performed in house. Building methods include construction management from an outside firm, competitive bidding and negotiated contracts for construction. Activity during 1989 was 100 percent retail and all developed space was leased. Firm completed the Philadelphia Home & Design Centre in Philadelphia. The project includes a 4,000-sq.-ft., on-site model house. *Marvin Uchida, VP, Properties*

77 (39) **$17.47**
Foster International Development Inc.
P.O. Box 67
Pittsburgh, PA 15230

Parent firm is Foster Industries Inc. of Pittsburgh. No design or construction is performed in house. This privately owned firm uses competitive bidding for construction. Offices accounted for all activity and all space was leased. Projects include the $22 million Washington Square office building and a building at the Foster Technical Center in Colorado Springs, Colo. *William A. Robinette, Pres.; Michael S. Cahn, VP*

69 (—) **$25.00**
Ackerman & Co.
1040 Crown Point Parkway
Suite 200
Atlanta, GA 30338

Firm is new to the listing this year. No design or construction is performed in house by this privately owned firm. Competitive bidding is used for construction and negotiated contracts are used for design. Activity was 60 percent hotel/motel, 25 percent offices and 15 percent high-tech industrial. All developed space was leased out. The Swiss Hotel in Atlanta is a recent project. *Charles Ackerman, CEO*

73 (79) **$20.00**
Cushman Investment & Development
333 S. Grand Ave.
Los Angeles, CA 90071

Parent firm is Cushman Realty Corp. of Los Angeles. Firm specializes in office development in Southern California. Activity was 95 percent offices and 5 percent retail. No construction or design is performed in house. Competitive bidding and negotiated contracts are used for construction. Landmark Square, a 440,000-sq.-ft. office building in Long Beach, Calif., is expected to be complete in January 1991. *Charles S. Peck, Chmn.; Robert A. Alleborn, Pres.*

78 (—) **$17.00**
Zimmer Cos.
1220 Washington
Kansas City, MO 64105

Firm is new to the listing this year. Above figure includes $2 million in reconstruction. Construction subsidiary is Zimmer Construction Services of Kansas City, Mo. Less than half of construction but no design are done in house. Firm uses negotiated contracts for design and design/build services from an outside firm. Offices accounted for 75 percent of activity and warehouse/distribution centers accounted for 25 percent. *Hugh J. Zimmer, Chmn., Pres.; Chris Ray, VP, Const. Svcs.*

70 (—) **$23.40**
Bronson & Hutensky
Cityplace, 34th Floor
185 Asylum St.
Hartford, CT 06103

Firm is new to the listing this year. Above figure include $8.5 of reconstruction. Construction subsidiary is B & H Construction Services Corp. of Hartford. Less than half of design and construction is performed in house. Activity was 95 percent retail and 5 percent offices. Firm's primary focus of development is strip shopping centers in the Midwest and in New England. *Leonard J. Schiraldi, Exec. VP, Devel.*

74 (77) **$20.00**
Merritt Co.
2066 Lord Baltimore Drive
Baltimore, MD 21207

Firm is known for developing flexible warehouse space in the Baltimore and Washington, D.C., areas. Activity was 50 percent warehouse/distribution centers, 30 percent offices, 10 percent high-tech industrial and 10 percent retail. Columbia Market Place, a 40,000-sq.-ft. retail center in Columbia, Md., is a recent project. *Larry Merritt, Owner; Scott Dorsey, General Mgr.*

79 (68) **$15.86**
Sudler Cos.
75 Eisenhower Parkway
Roseland, NJ 07068

Above figure includes $8.7 million of reconstruction. Firm is best-known for corporate park developments in New Jersey and is expanding into the retail market. All activity involved buildings built for lease to others. Projects include Morris Plains Plaza, a 20,000-sq.-ft. retail center in Morris Plains, N.J., and the mixed-use development Town & Country Shopping Center in Lakewood, N.J. *David S. Steiner, Exec. VP*

71 (73) **$20.67**
Linclay Corp.
1030 Woodcrest Terrace Drive
St. Louis, MO 63141

Other offices are in Cincinnati and Cleveland. Linclay develops Class A suburban office buildings and retail centers. Offices account for 65 percent of activity, followed by retail (25 percent) and warehouse/distribution centers (10 percent). Of all developed space, 70 percent was leased and 30 percent was sold. *J. Dale Perkinson, Chmn., CEO; Larry Chapman, VP, Devel.; Michael Casey, VP, Finance*

75 (36) **$19.92**
Kevin F. Donohoe Co. Inc.
Curtis Center, Suite 700
Philadelphia, PA 19106

Offices and shopping centers are specialties of this privately owned firm. Donohoe develops mainly on the East Coast, but plans to expand to the Southeast. Activity included offices (46 percent) and multifamily residential (40 percent). Firm recently completed the 155-room Omni Hotel at Independence Square in Philadelphia. *Kevin F. Donohoe, Pres., CEO; J. Michael O'Brien, Pres., Shopping Center Div.; Daniel Busch, VP, Office Devel.*

80 (—) **$14.25**
Ratkovich Company
3780 Wilshire Blvd.
Suite 1200
Los Angeles, CA 90010

Firm is new to the listing this year and is known for urban mixed-use and historic preservation projects in Southern California. No design or construction is performed in house. Negotiated contracts for construction, design/build from an outside firm and negotiated contracts are commonly used building methods. Firm recently completed the Fashion Institute of Design in downtown Los Angeles. *John G. Germain, VP, Mgr., Const*

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RETAIL DEVELOPERS

RETAILERS REPORT CONSTRUCTION SPENDING INCREASE OF 8%

Many are counting on new facilities and renovations to boost sales in a highly competitive environment

1 (3) **$348.18**

Melvin Simon & Associates
P.O. Box 7033
Indianapolis, IN 46207

Shopping center openings in 1989 included the $3.8 million Hutchinson (Kan.) Mall, the $167 million Fashion Centre at Pentagon City in Arlington, Va., and the $71 million A&S Plaza in New York City. Openings this year included the $67 million Lloyd Center Mall in Portland, Ore., and the $47 million Lincolnwood (Ill.) Town Center. *C. Buzz Weisiger, Sr. VP, Design, Eng. & Const.; Dennis Mannina and Jim Robertson, VPs, Dirs., Const.*

2 (2) **$340.00**

Dayton Hudson Corp.
777 Nicollet Mall
Minneapolis, MN 55402

Volume was estimated by *BD&C*. Company's Target division, which became a coast-to-coast retailer by opening 31 stores in the Southeast and 29 locations elsewhere, opened its first superstore in the Minneapolis area this fall. The Mervyn's division refurbished 25 stores. The company acquired the 24-store, Chicago-based Marshall Field & Co. last spring for $1.05 billion. *James T. Hale, Sr. VP*

3 (6) **$339.50**

Wal-Mart Stores Inc.
Bentonville, AR 72716

The company opened 145 new Wal-Mart stores and 18 Sam's Wholesale Clubs, adding its first units in Michigan, New Jersey and Wyoming, and bringing its gross selling area to more than 100 million square feet. In the current fiscal year, it plans to open 165 to 175 new Wal-Marts, 25 to 30 Sam's and one Hypermart USA, and to expand or relocate about 75 older Wal-Marts. *Thomas Seay, Sr. VP, RE & Const.; Robert Murphey, VP, Const.*

4 (4) **$303.41**

Albertson's Inc.
P.O. Box 20
Boise, ID 83726

Activity consisted of the construction of 41 new stores at a cost of $234.2 million and the remodeling of 40 units at a cost of $69 million; 75 percent involved retail buildings, 24 percent warehouses and 1 percent offices. Less than 50 percent of design and no construction done in house. Activity was 50 percent build to lease, 45 percent build for sale and 5 percent build to own. *Wendell E. Hornecker, Sr. VP, Design & Const.*

5 (—) **$298.00**

Safeway Stores Inc.
4th & Jackson Streets
Oakland, CA 94660

Safeway again became a public firm in April 1990. During 1989 the company spent $298 million for its ongoing capital expenditure program, primarily for new stores and equipment, store remodels and $95 million to purchase previously leased properties. The company plans to open about 70 new stores and complete major remodeling projects in about 240 stores over the next two years. *Phillip Horton, Sr. VP, RE, Eng.*

6 (—) **$270.00**

Taubman Co. Inc.
200 E. Long Lake Road
P.O. Box 200
Bloomfield Hills, MI 48303

Company was listed last year in the Diversified Developers category. Current projects include the 1.3 million-sq.-ft. Columbus (Ohio) City Center, the 1 million-sq.-ft. Cherry Creek retail center in Denver, the 900,000-sq.-ft. Bellevue Center in Nashville and a major remodeling of the 1.4 million-sq.-ft. Sunvalley Center in Concord, Calif. *A. Alfred Taubman, Chmn.; Robert Larson, Vice Chmn.; Robert Taubman, Pres., CEO*

7 (8) **$230.00**

Leo Eisenberg Co.
1101 Walnut St., Suite 800
Kansas City, MO 64106

Projects recently completed include the 175,000-sq.-ft. Quincy (Ill.) Commons; the 110,000-sq.-ft. Beardstown (Ill.) Plaza; the 92,000-sq.-ft. Wal-mart Shopping Center in Storm Lake, Iowa; the 250,000-sq.-ft. Fairfield Plaza in Exton, Pa.; and the 230,000-sq.-ft. North Atherton Place in State College, Pa. *Marty Goodman, Pres.; Irv Maizlish, Chmn.*

8 (1) **$220.00**

May Department Stores Co.
611 Olive St.
St. Louis, MO 63101

During 1989 the company opened 11 department stores totaling 1.4 million square feet of retail space. These included Lord & Taylor units in Plantation, Fla., and in Bridgewater, Rockaway and Livingston, N.J.; Foley's stores in Dallas and San Antonio; a May Co. store in California; and two Kaufmann's stores in New York. *Dean Wolfe, Exec. VP, RE; John Strong, Chmn., May Design & Construction Co.; J. Rutenis, Pres., May Design & Const. Co.*

9 (—) **$176.00**

Toys R Us Inc.
395 W. Passaic St.
Rochelle Park, NJ 07662

The company opened about 75 new stores last year in the U.S., including its initial units in Denver and Salt Lake City, and remodeled about 15 existing units. A typical store is 46,000 square feet. All projects were built to own. The company does all design, but less than 50 percent of construction, in house. *Michael Miller, Sr. VP, RE; Eric Swartwood, VP, Arch., Const.*

***Taubman Co. developed the 940,000-sq.-ft. Bellevue Center** in Nashville, Tenn. It consists of two anchor stores and 150 shops.*

RETAIL DEVELOPERS

10 (10) **$168.00**

J.C. Penney Co. Inc.
14841 North Dallas Parkway
Dallas, TX 75240

Volume estimated by *BD&C*. Nearly 30 percent of company's capital expenditures over the next five years will be earmarked for improvements to existing stores, amounting to a total of about $1 billion. Projected capital expenditures of about $2 billion over the next three years include the cost of building a new corporate headquarters in Plano, Texas, expected to be completed by late 1992. *John A. Wells, Sr. VP, Dir., RE Svcs.*

11 (13) **$140.00**

Hahn Co.
4350 LaJolla Village Drive
San Diego, CA 92122

Current projects include the $14 million remodeling of a mall in Clearwater, Fla.; a $9 million remodeling of the Mall of Memphis (Tenn.); a $64 million expansion and remodeling of Parkway Plaza in El Cajon, Calif.; a $3.3 million remodeling of Prestonwood Town Center in Dallas; and a $5 million remodeling of Puente Hills Mall in City of Industry, Calif. *William Doyle, Sr. VP; Maynard Rice, VP, Design & Const.*

***Edward J. DeBartolo Co. developed** the multilevel, 811,000-sq.-ft. New Orleans Centre. Its associated 500,000-sq.-ft. office building opened in January 1990.*

12 (14) **$139.70**

Edward J. DeBartolo Co.
7620 Market St.
Youngstown, OH 44512

Recently completed projects include the 485,000-sq.-ft. Crystal River (Fla.) Mall; the 637,000-sq.-ft. Northfield Square in Bradley, Ill.; the 422,000-sq.-ft. Park Place in Sandusky, Ohio; and the 1.2 million-sq.-ft. Avenues in Jacksonville, Fla. The company's 500,000-sq.-ft. CNG Tower at New Orleans Centre opened in January. *Floyd Zdrojkowski, VP, Eng. & Const.; James Sebastian, VP, Const. Field Oper.; Ken Schultz, VP, Const. Svcs.*

14 (9) **$130.00**

Kroger Co.
1014 Vine St.
Cincinnati, OH 45201

Volume was estimated by *BD&C*. The company built or remodeled 195 stores, representing about 10 percent of its store base, during 1989. It plans to build an average of 40 new food stores and to remodel about 100 existing units in each of the next four years. At yearend, it operated 1,234 food stores and 956 convenience stores. *Lorrence Kellar, Group VP; Jack Satterwhite, Dir., Eng. Svcs.*

16 (16) **$115.00**

American Stores Co.
5201 W. Amelia Earhart Drive
Salt Lake City, UT 84116

Volume estimated by *BD&C*. In the fiscal year ended Feb. 3, 1990, the company opened a total of 64 stores and enlarged or otherwise remodeled 76 stores, while disposing of or closing a total of 87 units. Its focus is on large combination food/drug stores with service departments such as pharmacies, bakeries and delis. The company operated a total of 1,894 stores at the start of the current fiscal year. *Prentice Merritt, Sr. VP, Plng. & Devel.*

13 (5) **$130.00**

K mart Corp.
3100 W. Big Beaver Road
Troy, MI 48084

Last year 72 K mart stores opened in the U.S. and Canada, compared to 64 openings in 1988. About 65 new stores are expected to open this year. In February, the company announced a five-year, $2.3 billion new store, enlargement, relocation and refurbishment program. It will involve 250 new full-size K mart stores and 620 enlargements. Additionally, about 1,260 stores will be refurbished. *Mike Skiles, VP, Corp. Fac.; James Vachon, Gen. Mgr., Const.*

15 (17) **$125.50**

Great Atlantic & Pacific Tea Co.
2 Paragon Drive
Montvale, NJ 07645

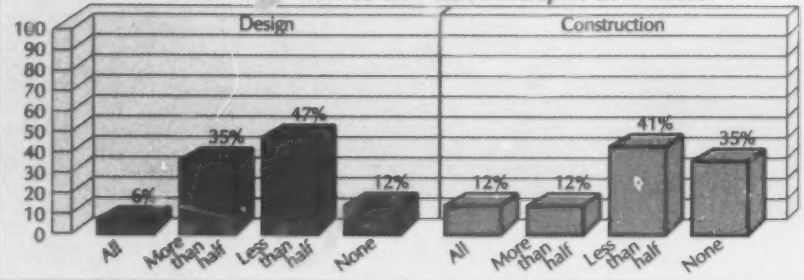
Activity in 1989 consisted of the construction of 17 new stores at a total cost of $42.5 million and the renovation of 83 units at a total cost of $83 million. All but 10 percent of this activity involved leased buildings. The company does less than 50 percent of its design and none of its construction in house. *David A. Sorenson, VP, Const.*

17 (11) **$114.00**

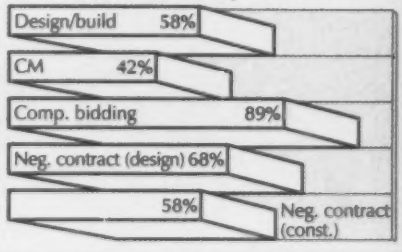
Winn-Dixie Stores Inc.
P.O. Box B
Jacksonville, FL 32203

Volume was estimated by *BD&C*. During the fiscal year ended June 27, 1990, 38 new stores and four acquired stores averaging 39,100 square feet were opened and 54 older stores averaging 24,900 square feet were closed. Additionally, 33 stores were enlarged or remodeled. The company is building a distribution facility and a milk processing plant in Hammond, La. *Cecil Burns, Store Design Dir.; J.D. Dismuke, RE coordinator*

How much work do the Retail Developers do in house?



How many of the Retail Developers use these delivery methods?



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18 (12) **$90.00**

General Growth Cos.
215 Keo
Des Moines, IA 50306

Openings in 1990 included the $30 million, 500,000-sq.-ft. Gateway Mall in Eugene/Springfield, Ore., and the $35 million, 600,000-sq.-ft. Birchwood Mall in Port Huron, Mich. The $32 million, 550,000-sq.-ft. River Falls Mall in Clarksville, Ind., will open next year. The company does less than 50 percent of its design, but all construction in house. *Robert Dowell, VP, Const.; Derwood Quade, VP, Arch.*

19 (19) **$88.40**

Neiman Marcus
2700 Renaissance Tower
1201 Elm St.
Dallas, TX 75270

Volume includes 1989 capital expenditures for new facilities and store modernization, including new selling fixtures, designer shops and support facilities. Capital expenditures for the current fiscal year are expected to be about $120 million, and to include remodeling of a number of Neiman Marcus stores and the construction of new Neiman Marcus stores in Denver and Minneapolis. *Thomas Lehnen, Sr. VP, Properties and New Store Devel.*

20 (7) **$86.00**

Sears, Roebuck and Co.
Dept. 824X, Sears Tower
Chicago, IL 60684

Activity during 1989 included $80 million of new construction and $6 million of reconstruction. The company opened 25 retail stores in new markets, and an additional 21 units replaced older stores — representing the largest number of stores opened since 1966. During 1990, the company plans to open 29 new stores and to replace 26 older stores, adding 2.5 million square feet of retail space. *George Shaw, Natl. Mgr., Fac. Svcs.*

21 (25) **$66.90**

Carter Hawley Hale Stores
550 S. Flower St.
Los Angeles, CA 90071

The company opened a new Thalhimers store in Colonial Heights, Va., and a Broadway store in Santa Barbara, Calif. Openings in 1991 will include a Broadway store in El Cajon, Calif.; Broadway-Southwest units in East Mesa and Paradise Valley, Ariz.; and a Thalhimers in Raleigh, N.C. Over the past three years, it has upgraded distribution centers at Thalhimers, Emporium, Broadway-Southwest and Weinstocks. *J. Scott Meyer, Sr. VP, Plng. & Const.*

22 (21) **$66.00**

Revco Drug Co.
1925 Enterprise Parkway
Twinsburg, OH 44087

Activity consisted of $38 million of new construction involving 75 stores and $28 million of reconstruction at 700 stores. The company does more than 50 percent of its design but less than 50 percent of its construction in house. The stores vary in size from 8,450 to 15,000 square feet, and are primarily leased in buildings constructed to the company's specifications. *Marvin Solganik, Sr. VP, RE*

23 (13) **$60.00**

Walgreen Co.
200 Wilmot Road
Deerfield, IL 60015

In its most recent fiscal year, the company opened 104 new drug stores and two Rxpress pharmacies. Its new Mt. Vernon, Ill., distribution center began operations in June. In the current fiscal year, the company expects to open at least 110 new drug stores and to perform major remodeling at 75 others. *William Shiel, VP, Fac. Dev.; Thomas Bergseth, Dir., Arch. and Eng.; Al Langefeld, Dir., Const.*

24 (23) **$30.15**

F. W. Woolworth Co.
233 Broadway
New York, NY 10297

Activity consisted of $18.5 million of new construction and $11.7 million of reconstruction at existing stores. All activity involved buildings leased from others. Recent activity has focused on the company's specialty stores, including its 6,000-sq.-ft. Woolworth Express units, its 800-sq.-ft. Afterthoughts ladies' accessory stores and its 5,000-sq.-ft. Best of Times stores. *J.R. Geist, Asst. VP., Const.; K.L. Ledebuhr, Const. Dir.*

25 (—) **$23.00**

W.M. Grace Development Co.
7575 N. 16th St.
Phoenix, AZ 85020

Company was listed last year in the Diversified Developers section. In 1989, its activities involved retail buildings entirely. Current Arizona projects include the $13 million Frontier Village in Prescott, the $8 million Sedona Village in Sedona, the $9 million Ridge View Plaza in Mesa and the $8 million Smith's Plaza in Phoenix. *Howard Grace, VP, Devel.; Richard Best, VP, Const.; Ronald Crouch, VP, Des.*

26 (26) **$22.00**

Montgomery Ward & Co.
844 Larrabee St. (4-4)
Chicago, IL 60671

Current projects include a 90,000-sq.-ft. store in Ocala, Fla.; a 115,000-sq.-ft. store in Topeka, Kan.; a 100,000-sq.-ft. store in Indianapolis; a 92,000-sq.-ft. store in Chesapeake, Va.; and a 92,000-sq.-ft. store in Chicago. Over the next year, the independently owned company plans to open 53 new stores. *Donald L.Docken, VP, Merch. Presentation; Ed Zgonina, Dir., Store Plng., Mike Willingham, Dir., Const.; Norm Abplanalp, Corp. Arch.*

27 (—) **$16.00**

Realty Companies Inc.
2000 E. Highland Drive
Jonesboro, AR 72401

Current projects include two shopping centers in Jonesboro, the 180,000-sq.-ft. Caraway Plaza and the 230,000-sq.-ft. Highland Square. The company, which is best-known for shopping center development in the Southeast, mid-Atlantic and mid-South, was formerly known as Realty Associates Companies. It does no design and less than 50 percent of its construction in house. *Bruce Burrow, Pres.*

28 (22) **$15.00**

TRF Pacific Inc.
P.O. Box 5727
Bellevue, WA 98006

Current projects include two supermarket developments with associated shops — a $13 million project in Bellevue and a $30 million project in Puyallup, Wash. — and a $40 million medical center in Seattle. The company, which is best known as a Seattle area shopping center developer, does less than 50 percent of its design and none of its construction in house. *Charles E. Hart, Exec. VP; Nancy Hansen, Const. Coordinator*

29 (24) **$12.00**

Price Development Co.
35 Century Parkway
Salt Lake City, UT 84115

Current projects include Division Crossing in Portland, Ore.; Gateway Crossing in Bountiful, Utah; Zaragosa Plaza in El Paso, Texas; Spokane (Wash.) Mall; and Pioneer Square in Salt Lake City. All projects were constructed for lease. Less than 50 percent of design and construction is done in house. *G. Rex Frazier, Pres.; Thomas Mulkey, VP, Devel.*

30 (30) **$8.00**

Spatz & Co.
104 Wilmot Road
Deerfield, IL 60015

Current projects include an $8 million shopping center in Neenah, Wis.; a $6 milion center in Sioux Falls, S.D.; a $9 million center in Grand Forks, N.D.; and a $4 million center in Montgomery, Ill. The company, which does no design or construction in house, also began a $7 million, 391-unit residential project in Highland Park, Ill. *Barry Herring, Pres.; Wendy Spatz, VP, Des.*

Price Development Co. developed the Red Cliffs Mall in St. George, Utah. Anchor tenants include the Salt Lake City-based retailer ZCMI.

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INDUSTRIALS

MODERNIZATIONS/EXPANSIONS FUEL CONSTRUCTION

Rising spending by food and beverage, chemical and forest product firms contributed to an overall 9.4% increase

1 (11) **$617.50**
Anheuser-Busch Cos. Inc.
One Busch Place
St. Louis, MO 63118

Virtually all construction put in place by Anheuser-Busch during calendar 1989 involved new construction. Traditional manufacturing accounted for 85 percent of construction spending, while offices, laboratories and warehouse facilities made up the balance. Less than 50 percent of design and more than 50 percent of construction are done in house. Firm currently has $2.5 billion in projects under way in the U.S. *Richard A. Moose, Dir., Proj. Mgmt. & Const.*

2 (2) **$565.90**
IBM Corp.
Old Orchard Road
Armonk, NY 10504

Construction volume estimated by *BD&C*. IBM owns 50.3 million square feet of property in the U.S. and 21 million square feet in 15 other countries. Firm reported nearly $800 million in building additions for calendar 1989 and more than $4 billion in investments for plants and properties. Although improved production techniques have resulted in reduced manufacturing sites, firm engages in continuous facility upgrades to improve productivity. *Tom Coward, Mgr., Eng.*

3 (5) **$550.00**
Boeing Co.
Box 3707, MS 13-03
Seattle, WA 98124

Construction volume estimated by *BD&C*. Boeing's investment in property, plant and equipment totaled $1.36 billion during calendar 1989 — almost double its investment for 1988. Much of this was for new facilities and equipment to support increased production rates. Recent projects include a new $400 million, 800,000-sq.-ft. sheet metal factory in Auburn, Wash., and a $25 million plant expansion in Winnipeg, Canada. *Frank Waterworth, Corp. Mgr., RE*

4 (4) **$450.00**
E.I. duPont de Nemours & Co.
1007 Market St.
Wilmington, DE 19898

Construction volume estimated by *BD&C*. Firm has experienced dramatic growth in the Asia Pacific region and plans to spend more than $1 billion to build nylon manufacturing plants in the region during the next decade. Firm also announced a new manufacturing site in Spain. Capital expenditures during calendar 1989 amounted to more than $3.4 billion. Firm recently acquired Howson-Algraphy, a leading U.K. printing plate manufacturer. *Robert H. Miller, Dir., Proj. Eng.*

5 (6) **$400.00**
International Paper Co.
P.O. Box 160707
Mobile, AL 36616

Construction volume estimated by *BD&C*. International Paper's capital expenditures totaled $887 million in 1989, a $243 million increase over 1988 expenditures. Included in this amount were major projects to increase product quality, productivity and capacities at various mills in the U.S. Firm completed several strategic acquisitions in 1989 at a cost of approximately $410 million. *William Harris, Mgr., Eng.*

6 (1) **$367.50**
AT&T Technologies
222 Mount Airy Road
Basking Ridge, NJ 07920

AT&T performs less than 50 percent of design and no construction in house. Offices accounted for 40 percent of construction volume during calendar 1989, while R&D and manufacturing facilities accounted for 30 percent and 20 percent, respectively. Recent projects include a 940,000-sq.-ft. office building in Minneapolis and a 265,000-sq.-ft. manufacturing facility in Guadalajara, Mexico. *G.A. Decker, VP, RE; L.F. Garcia, Dir., Eng., Design & Const.*

***The 784,000-sq.-ft. Promenade Two** is a joint venture between AT&T Technologies and the Landmarks Group, Atlanta.* Photo: Smith Aerial Photography

7 (12) **$334.00**
Chrysler Corp.
12000 Chrysler Drive
Highland Park, MI 48288

Construction volume estimated by *BD&C*. Work continues on Chrysler's $1 billion technology center at a 500-acre site in Auburn Hills, Mich. A massive modernization program that included most of the firm's factories has been substantially completed. An assembly plant in St. Louis will close this year. Capital expenditures totaled $1.66 billion during calendar 1989. *John Garbacik, Mgr., Fac. Proj. Mgmt.*

8 (14) **$322.00**
General Electric Co.
1 River Road
Schenectady, NY 12345

Construction volume estimated by *BD&C*. In a move to increase global services, GE's plastics' division opened a plant and technical center in South Korea, formed a joint venture in Japan and continued expansion plans in Alabama and Spain. After an extensive renovation, firm's lighting institute in Cleveland reopened last year. Also in 1989, firm began construction of an Ohio-based fluorescent lamp production facility. *Tom Noonan, Mgr., Eng. & Const.*

9 (7) **$300.00**
Minnesota Mining & Manufacturing Co.
P.O. Box 33331, Bldg. 428
900 Bush Ave.
St. Paul, MN 55133

Manufacturing facilities accounted for 70 percent of construction put in place during calendar 1989, while R&D and office facilities accounted for 15 percent and 12 percent respectively. Firm performs more than 50 percent of design and less than 50 percent of construction in house. Recent projects include an office building in St. Paul, Minn. *Clair R. Larson, Staff VP, Fac. Eng. & RE*

10 (18) **$264.30**
Ford Motor Co.
Plant Eng. Office
Rm. 646, WHQ
P.O. Box 1899
Dearborn, MI 48121

Ford currently has $445 million worth of projects under way worldwide. Firm performs no design and less than 50 percent of construction in house. Manufacturing facilities accounted for 70 percent of construction put in place last year, while offices, high-tech, R&D and warehouse facilities made up the balance. Current projects include a $30 million glass manufacturing plant in Vernoy, Tenn. *John Casey, Dir., Plant Eng.*

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INDUSTRIALS

11 (10) **$257.80**
Philip Morris Cos. Inc.
120 Park Ave.
New York, NY 10017

Construction volume estimated by *BD&C*. Philip Morris continues to modernize its plants to enhance efficiency. Over the next five years, firm plans capital expenditures of more than $2 billion to support its worldwide tobacco operations. Recent projects include a new processing facility for firm's brewing interests (Miller), as well as the expansion of packaged draft capabilities in Irwindale, Calif., and Fulton, N.Y. *Raymond Amico, Admin., Fac. Plng.*

12 (8) **$250.00**
Bristol-Myers Squibb Co.
315 Thompson Road
Syracuse, NY 13206

Bristol-Myers performs less than 50 percent of design and no construction in house. R&D facilities accounted for 55 percent of construction put in place during calendar 1989, while high-tech and office facilities accounted for 40 percent and 5 percent, respectively. Recent projects include a pair of New Jersey-based R&D facilities in Lawrenceville and New Brunswick and a bulk chemical facility in Puerto Rico. *Paul Lorenzo, VP, Central Eng.*

13 (16) **$216.00**
PepsiCo Inc.
Anderson Hill Road
Purchase, NY 10577

Construction volume estimated by *BD&C*. Pepsico reported nearly $150 million in building additions and nearly $290 million in additions to construction in progress during calendar 1989. Much of its construction activity last year involved manufacturing capacity and productivity enhancement projects for domestic and international snack foods. Firm also completed the acquisition of a number of companies in 1989. *Gordon McPhaden, Dir., Eng.*

14 (24) **$187.50**
Eastman Kodak Co.
343 State St.
Rochester, NY 14650

Construction volume estimated by *BD&C*. Eastman Kodak moved the headquarters of its international operations from Rochester, N.Y., to London, signifying the increasingly global nature of its business. As evidenced by recent projects, firm is emphasizing presence in Europe. Those projects include the construction of a graphics technology center in Harrow, England, and improvements in its distribution operations on the Continent. *Duane Roland, Mgr., Const. Div.*

15 (9) **$175.20**
Hewlett-Packard Co.
3000 Hanover St.
Palo Alto, CA 94304

Construction volume estimated by *BD&C*. Hewlett-Packard's investment in plant, properties and equipment totaled $857 million for fiscal year ending Oct. 31, 1989. HP has established science centers in the U.S. and Europe to perform joint research with universities and will open another center this year in Japan. Firm recently completed the acquisition of Apollo Computer Inc. for $500 million. *Dennis Raney, Dir., RE*

16 (33) **$158.00**
Goodyear Tire & Rubber Co.
1144 E. Market St.
Akron, OH 44316

Construction volume estimated by *BD&C*. Goodyear's capital expenditures totaled more than $775 million for calendar 1989. Firm estimates 1990 expenditures will amount to $700 million, much of which will be allocated for a new tire plant in Ontario and for various plant expansions and modernizations. The expansion of a plant in Point Pleasant, W. Va., was recently completed for firm's polyester division. *Tom Frey, Mgr., Tire Products and Proj.*

17 (3) **$151.00**
Argonaut AEC
General Motors Corp.
485 W. Milwaukee Ave.
Detroit, MI 48202

GM performs more than 50 percent of design and less than 50 percent of construction in house. Construction management and competitive bidding are among the building methods most commonly used. Manufacturing facilities accounted for the bulk of its construction activities for calendar 1989. Recent projects include the Saturn manufacturing plant in Spring Hill, Tenn. *Robert A. Valentine, Dir.; John C. Davis, Mgr., Proj & Const. Admin.*

18 (19) **$138.00**
United Technologies Corp.
UT Building
Hartford, CT 06101

Construction volume estimated by *BD&C*. UT owns plant facilities totaling 31.3 million square feet in the U.S. and 12.3 million square feet in foreign countries. Firm reported $155.8 million in building additions and $136.6 million in additions to construction in progress during calendar 1989. Firm recently completed the acquisition of Sheller-Globe Corp., an auto parts manufacturer. *Kenneth Rankin, Mgr., Corp RE*

19 (31) **$137.50**
ConAgra Inc.
One Central Park Plaza
Omaha, NE 68102

Construction volume estimated by *BD&C*. ConAgra plans to invest $245 million in additions to plant, property and equipment during its next fiscal year. Recent projects included the expansion of a fiber processing plant in Minnesota and the renovation of a corn plant in Kansas for firm's grain processing division. Firm recently announced an agreement to acquire Beatrice Co. for $1.34 billion. *Robert J. White, VP, Corp. Plng.*

20 (17) **$137.00**
RJR Nabisco Holdings Corp.
Box 2959
Winston-Salem, NC 27105

Construction volume estimated by *BD&C*. RJRN reported $16 million in building additions and $369 million in additions to construction in progress for calendar 1989. Recently completed projects include the modernization of a manufacturing plant in Whitaker Park, N.C., for firm's tobacco business. The project was part of a 10-year, $2 billion modernization program that was completed in 1989. *Joe Morgan, VP, Eng.*

21 (15) **$136.60**
Rockwell International Corp.
2230 E. Imperial Highway
El Segundo, CA 90245

Office facilities accounted for 60 percent of construction put in place by RI during its last fiscal year, while manufacturing and R&D facilities accounted for 30 percent and 10 percent, respectively. Firm performs more than 50 percent of design and less than 50 percent of construction in house. Recent projects include a manufacturing, office and warehouse center in Mequon, Wis., and an office building in Cedar Rapids, Iowa. *Earl Beauvais, Mgr., Aerospace Fac.*

22 (30) **$136.30**
Caterpillar Inc.
100 N.E. Adams St.
Peoria, IL 61629

Construction volume estimated by *BD&C*. Caterpillar reported $127 million in building additions for calendar 1989 and $243 million in additions to construction in progress. Firm owns facilities in the U.S., France, Brazil, Australia, the U.K., Canada and other foreign locations. A factory modernization program called "Plant With a Future" is well under way. *Gene Pfotenhauer, Eng. Mgr.*

23 (35) **$126.00**
Sara Lee Corp.
3 First National Plaza
Chicago, IL 60602-4260

Construction volume estimated by *BD&C*. Sara Lee has operations in more than 30 countries worldwide. Acquisitions and capital expenditures in Europe have exceeded $1.4 billion during the last five years. Total capital expenditures for last fiscal year amounted to $541 million. Firm acquired several companies in 1989, including Morco Industries, a food distribution company. *Thomas H. Gordon, Dir., RE*

Among General Motors' recently completed projects is a new manufacturing and assembly plant in Spring Hill, Tenn. The plant will build cars for GM's Saturn division.

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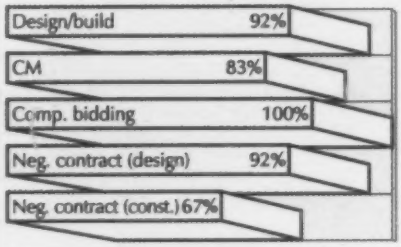
24 (13) **$125.00**

McDonnell Douglas Corp.
P.O. Box 516
St. Louis, MO 63166

MD performs more than 50 percent of design and construction in house. Offices accounted for 50 percent of construction volume for calendar 1989, while manufacturing facilities accounted for 20 percent. R&D, high-tech and warehouse projects made up the balance. Firm expects construction activity to drop by more than 50 percent this year. *J.R. Shanks, Dir., Const. & Maint.*

How many of the Industrials use these delivery methods?



33 (27) **$90.00**

Pillsbury Co.
200 South Sixth St.
Minneapolis, MN 55402

Construction volume estimated by *BD&C*. Pillsbury was acquired in January 1989 by Grand Metropolitan PLC, a London-based food, beverage and retailing company. Food division's expenditures continue to be largely for plant modernizations. *David Fitzjohn, VP, RE*

25 (—) **$123.70**

Weyerhaeuser Co.
Tacoma, WA 98477

Construction volume estimated by *BD&C*. Weyerhaeuser continues to increase capacity for several well-performing paper lines. A new pulp mill in Columbus, Miss., opened earlier this year. Firm's forest products operations started up several new facilities, including a state-of-the-art sawmill in Greenville, N.C., and a new export lumber mill in Coos Bay, Ore., that is dedicated to the Japanese market. *Bill Cable, Eng., Capital Support Group*

29 (22) **$98.20**

Merck & Co. Inc.
P.O. Box 2000
Rahway, NJ 07065

Construction volume estimated by *BD&C*. Merck's capital expenditures totaled $433 million in 1989. Firm reported $96 million in building additions and $88.4 million in additions to construction in progress for same period. Recent projects include the construction of sterile production and safety assessment facilities in West Point, Pa. *Larry Hughes, Sr. Dir., Corp. Eng.*

34 (39) **$87.70**

Dow Chemical Co.
2030 Willard H. Dow Center
Midland, MI 48674

Construction volume estimated by *BD&C*. Dow reported $171 million in building additions for calendar 1989. Firm was to have 20 full-scale latex manufacturing facilities worldwide after the completion of capacity expansion projects this year. A plant with two manufacturing lines began production in Finland in 1989. Plants are also under construction in Korea and Venezuela. *Mary Lehman, Mgr., RE*

26 (—) **$123.50**

General Mills Inc.
One General Mills Blvd.
P.O. Box 1113
Minneapolis, MN 55426

Construction volume estimated by *BD&C*. General Mills reported more than $140 million in building additions for last fiscal year and $128 million in additions to construction in progress. Firm added 20 percent to its cereal capacity at four existing plants and recently opened a new plant in Covington, Ga. Firm aims to create a worldwide breakfast cereal business, with its first priority being Europe. *Edward L. Blood, Dir., Strategic Plng.*

30 (36) **$98.00**

Lockheed Corp.
4500 Park Granada Blvd.
Calabasas, CA 91399

Construction volume estimated by *BD&C*. Lockheed operates approximately 39 manufacturing plants and R&D facilities throughout the U.S. Firm reported $91 million in building additions and $21 million in additions to construction in progress for calendar 1989. Construction was to begin this year on a rocket motor manufacturing plant in Yellow Creek, Miss. *Richard Heilman, Corp. Dir., RE*

35 (46) **$87.60**

Becton Dickinson and Co.
One Becton Drive
Franklin Lakes, NJ 07417

Construction volume estimated by *BD&C*. BD owns nearly 4.9 million square feet of space in the U.S. and more than 2 million square feet in foreign countries. Firm's capital spending for new capacity has been increasing steadily since 1984, reaching $314 million in 1989. Firm's microbiology segment opened a new plant in Japan and purchased businesses in the U.S., England and Australia. *D.P. Sposato, VP, Realty*

27 (—) **$106.00**

Cooper Industries
First City Tower, Ste. 4000
P.O. Box 4446
Houston, TX 77210

Construction volume estimated by *BD&C*. Firm acquired Champion Spark Plug and Cameron Iron Works in 1989. Capital expenditures totaled nearly $200 million, about half of which was used for efficiency improvement projects. A new plant in Arkansas for making electrical power supply cords was due for completion this year. *Terry Clawson, Mgr. Fac. Eng.*

31 (—) **$91.70**

Kimberly-Clark Corp.
P.O. Box 619100
DFW Airport Station
Dallas, TX 75261-9100

Construction volume estimated by *BD&C*. Kimberly-Clark reported $95.4 million in building additions and $66.2 million in additions to construction in progress for calendar 1989. Construction of a tissue manufacturing plant in France is one of several projects intended to increase the company's opportunities in Europe. Construction of a tissue plant in Loudon, Tenn., was completed this year. *Tom Falls, Dir., Corp. Strategic Analysis*

36 (29) **$86.50**

Aluminum Co. of America
1501 ALCOA Building
Pittsburgh, PA 15219

Construction volume estimated by *BD&C*. ALCOA's capital expenditures totaled $875.7 million during calendar 1989, a 1 percent increase over 1988 expenditures. Firm's packaging and aerospace/industrial products divisions have been involved in plant modernization programs. The aerospace/industrial division also made acquisitions in Spain and the Netherlands, thus expanding its presence in European markets. *Charles P. Fletcher, VP, Eng.*

28 (44) **$100.00**

Allied Signal Inc.
101 Columbia Turnpike
Morristown, NJ 07960

Construction volume estimated by *BD&C*. Allied performs less than 50 percent of design and construction in house. Three-quarters of its construction expenditures for 1989 involved manufacturing facilities, while offices, warehouses and R&D facilities made up the balance. Recent projects include the expansion of a carpet manufacturing plant in Chesterfield, Va. *Ron Mallek, Dir., Corp. RE*

32 (42) **$90.00**

Eli Lilly & Co.
Lilly Corporate Center
Indianapolis, IN 46285

Eli Lilly expects its U.S. construction volume to more than double during calendar 1990. Some $500 million in construction is currently under way worldwide. Firm performs less than 50 percent of design and no construction in house. High-tech facilities accounted for 50 percent of its construction activity in 1989, while office facilities accounted for 25 percent. Projects under way include a research facility in Indianapolis. *John G. Schumm, Dir., Const. Svcs.*

37 (28) **$78.70**

Raytheon Co.
141 Spring St.
Lexington, MA 02173

Construction volume estimated by *BD&C*. Raytheon reported $85.5 million in additions to building and leasehold improvements for calendar 1989. Firm continued to modernize and expand its operating facilities. Its missile systems division completed a 44,000-sq.-ft. assembly and office facility in Huntsville, Ala., and a 40,000-sq.-ft. assembly building in Chattanooga, Tenn. Firm made a number of acquisitions in 1989. *W. Carleton Bartow, Dir., RE & Plng.*

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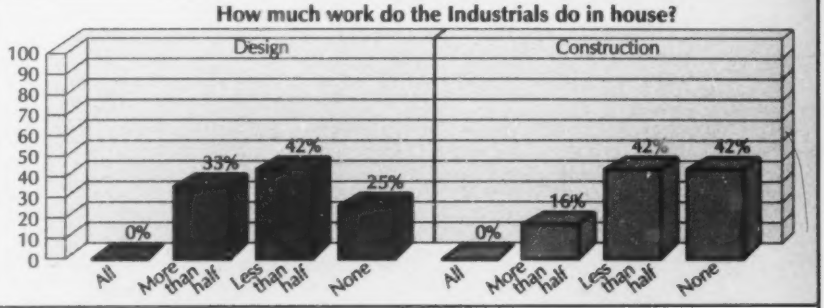
INDUSTRIALS

38 (21) **$73.26**
Monsanto Co.
800 N. Lindbergh Blvd.
St. Louis, MO 63167

Construction volume estimated by *BD&C*. Monsanto operates facilities in the U.S., Europe, Canada, Latin America, Australia, Asia and Africa. Firm invested $607 million in capital last year to reduce costs, expand capacity and improve the environment. Firm's pharmaceutical business, Searle, acquired a West German pharmaceutical firm in October 1989. *Tom Rincker, Dir., Corp. RE*

How much work do the Industrials do in house?



39 (25) **$73.00**
American Home Products
685 3rd Ave.
New York, NY 10017

Construction volume estimated by *BD&C*. Firm began construction last year of an animal vaccine facility in Ireland that is intended to strengthen its competitiveness in the European market. Production capacity for a flu vaccine was doubled with the expansion of manufacturing facilities in Marietta, Pa. Firm reported nearly $100 million in building additions for calendar 1989. *Walter Fleming, Dir., RE*

43 (45) **$65.50**
Champion International Corp.
One Champion Plaza
Stamford, CT 06921

Construction volume estimated by *BD&C*. Expansion or modernization programs at several Champion mills are either under way or planned for the next few years. Recent projects include a major expansion and modernization of firm's Courtland, Ala., paper mill and the expansion of a pulp mill in Alberta, Canada. *John Johnson, VP, Eng.*

47 (43) **$50.00**
Georgia-Pacific Corp.
133 Peachtree St., N.E.
Atlanta, GA 30303

Construction volume estimated by *BD&C*. G-P reported $140 million worth of construction in progress for calendar 1989. Firm's capital expenditures in 1989 were $499 million, including $135 million in its building products segment and $310 million in its pulp and paper segment. *Richard M. George, Dir., RE*

40 (40) **$67.30**
W.R. Grace & Co.
1114 Avenue of the Americas
New York, NY 10036-7794

Construction volume estimated by *BD&C*. Grace's specialty chemicals business spent $283 million on capital projects in 1989. Its capital spending this year was focused on capacity increases and plant modernizations to reduce manufacturing costs. Recent projects include a fumed silica plant being constructed near Antwerp, Belgium. In 1989, firm acquired various businesses providing health care services, as well as a specialty textile business. *Thomas Lawlor, Dir., Corp. RE*

44 (37) **$60.70**
Baxter International Inc.
One Baxter Parkway
Deerfield, IL 60015

Construction volume estimated by *BD&C*. For calendar 1989, Baxter reported $23 million in additions to buildings and leasehold improvements and $181 million in additions to construction in progress. Productivity gains resulted from the expansion of operations at lower-cost manufacturing sites, continued automation of manufacturing processes and the consolidation of manufacturing facilities. *C.F. Cohlmeyer, VP, Fac. Eng.*

48 (48) **$45.90**
Procter & Gamble Co.
One Procter & Gamble Plaza
Cincinnati, OH 45202

Construction volume estimated by *BD&C*. P&G reported $102 million in building additions for fiscal 1989. Firm made several acquisitions in 1989 totaling more than $500 million. Its worldwide capital expenditures have averaged $1 billion annually for the past three years. *Richard Glover, VP, Eng.*

41 (—) **$66.00**
Upjohn Co.
7000 Portage Road
Kalamazoo, MI 49001

Construction volume estimated by *BD&C*. During 1989, Upjohn began construction of a $122 million, 700,000-sq.-ft. addition to its Kalamazoo research complex that will eventually increase its R&D capacity by 50 percent. Firm currently has operations in 200 locations worldwide. Its capital expenditures totaled $242 million during 1989. *S.J. Knox, Dir, Const. Mgmt.*

45 (49) **$55.50**
PPG Industries Inc.
One PPG Place
Pittsburgh, PA 15272

Construction volume estimated by *BD&C*. PPG recently expanded its North American capacity to make automotive windshields, undertook construction to expand auto replacement glass capacity, and built a Southeast regional float glass facility in Perry, Ga. Firm also undertook construction of manufacturing facilities in Taiwan and Thailand. *Richard Marks, Mgr., RE*

49 (—) **$45.60**
TRW Inc.
1900 Richmond Road
Cleveland, OH 44124

Construction volume estimated by *BD&C*. TRW's operations include approximately 114 manufacturing, research and development, warehousing and data processing facilities located in 24 states in the U.S and 95 such facilities in 15 other countries. Firm's automotive interest has entered into several joint-venture construction projects, including two plants in North America. Joint-venture facilities are planned for Poland and India. *Peter Steigerwald, Dir. Fac. & Admin.*

42 (41) **$66.00**
Westinghouse Electric Corp.
Gateway Center
Pittsburgh, PA 15222

Westinghouse performs no design or construction in house. Firm builds, owns and occupies 75 percent of its facilities and leases the balance in buildings constructed to its specifications. Construction put in place during calendar 1989 was almost evenly split among offices, manufacturing, high-tech, R&D and warehouse facilities. Firm expects its 1990 dollar volume to remain about even with 1989 figure. *D.J. Flanders, Dir., Corp. Const.*

46 (38) **$52.30**
General Dynamics Corp.
Pierre Laclede Center
St. Louis, MO 63105

Construction volume estimated by *BD&C*. General Dynamics' 1989 capital expenditures decreased from the amount invested in 1988. The expenditures were made in connection with new programs to maintain and improve productivity, and to modernize and expand facilities. Expenditures in 1990 were expected to increase from 1989. *Tom Augustsson, Corp. Dir., Fac.*

50 (20) **$45.00**
Xerox Corp.
PO Box 1600
Stamford, CT 06904

Xerox performs no design or construction in house. Two-thirds of construction put in place during calendar 1989 was for reconstruction. Manufacturing facilities accounted for 40 percent of dollar volume, while balance was evenly split among office, R&D and warehouse projects. Projects under way include a 350,000-sq.-ft. office building in Paris and a photoreceptor plant in Webster, N.Y. *Joseph Rooney Mgr., RE Ping.*

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MULTIFAMILY DEVELOPERS

CONSTRUCTION SLOWS FOR MULTIFAMILY DEVELOPERS

Total construction spending fell to $3.4 billion from previous year's total of $3.6 billion

1
(2)
$725.40

Pacific Coast Development Co.
629 Camino de Los Mares
San Clemente, CA 92672

This privately owned firm's business is focused on the West Coast, but it has done projects throughout the U.S. Firm plans to become a publicly traded company next year. Over $45 million was spent on commercial reconstruction. Firm typically performs more than 50 percent of design and construction in house. Firm also works on a design/build basis with outside firms. West Port Condominiums in Honolulu is a current project. *Robert Thomas, Arch.*

2
(1)
$700.00

Trammell Crow Residential Co.
3500 Trammell Crow Center
2001 Ross Ave.
Dallas, TX 75201

Construction volume estimated by *BD&C*. Multifamily housing typically accounts for the majority of this privately owned firm's activity. All construction is handled in house, and contracts are negotiated for design. Though the company builds nationwide, most of its activity is in the Southeastern states. *J. Ronald Terwilliger, Managing Ptnr.*

3
(—)
$411.28

NVR L.P.
7601 Lewinsville Road
Suite 300
McLean, VA 22102

This publicly traded firm is new to the listing this year. Volume shown excludes single-family detached homes, which were 65 percent of the company's activity. Firm primarily builds in the Washington, D.C., Baltimore and Pittsburgh areas. NV Homes and Ryan Homes, also in McLean, are subsidiaries. Typically more than 50 percent of design and all construction are handled in house. Firm's 1989 multifamily units were built for sale. *Douglas Poretz, VP*

4
(4)
$207.08

Hovnanian Enterprises Inc.
10 Highway 35
P.O. Box 500
Red Bank, NJ 07701

Firm constructs primarily multifamily units in New Jersey, Florida and New York. No construction and less than 50 percent of design are done in house. During fiscal year ending in February 1990, the firm built 3,163 multifamily units. Current multifamily projects include Paddington Square, a 510-unit condominium development in New Jersey, and Society Hill, a 300-unit condominium structure in Pennsylvania. *Ara K. Hovnanian, Pres.*

5
(7)
$160.00

Oxford Development Corp.
7316 Wisconsin Ave.
Bethesda, MD 20814

Construction volume estimated by *BD&C*. This privately owned firm constructs both multifamily and retirement communities throughout the country. Less than 50 percent of design and construction are handled by the firm. Oxford Development Enterprises and Oxford Retirement Services are the firm's two subsidiaries. *Leo Zickler, Pres.*

6
(3)
$135.00

Robertson Homes
6653 Embarcadero Drive
Stockton, CA 95209

Construction volume estimated by *BD&C*. Firm's subsidiaries are Robertson Design and Robertson Construction, both in Stockton, Calif. Firm's major activity is in California, but expanded to Maryland and Washington, D.C., in 1989. More than 50 percent of design and all construction are done in house by this privately owned firm. *David Fisher, VP*

7
(5)
$119.32

A.G. Spanos Construction Inc.
1341 Robin Hood Drive
Stockton, CA 95207

All construction and less than 50 percent of design are handled in house by this privately owned firm. During 1989, more than 3,000 units were built in in the West and Southwest. Activity was 70 percent multifamily housing and 30 percent health care facilities. Multifamily projects completed in 1990 include Waterford Place, a 180-unit structure in Atlanta, Ga., and Mountain Creek, a 320-unit structure in Las Vegas. *Dean Spanos, Pres.; Michael Spanos, Exec. VP*

8
(2)
$118.70

U.S. Home Corp.
P.O. Box 2863
Houston, TX 77252

Volume shown excludes single-family construction, which was 70 percent of this publicly traded firm's activity in Florida, Texas, California, New Jersey and Washington, D.C. No design or construction is performed in house. All of firm's 1989 units were built for sale. Kelly Greens, a 600-unit townhome/condominium development in Fort Meyers, Fla., is a current multifamily project. *Robert J. Strudler, Chmn., CEO; Isaac Heimbindek, Pres.; John Johnson, VP, Const.*

Trammell Crow Residential Co., Atlanta, *completed Briarcliff Gables, a 220-unit apartment complex in Atlanta.* Photo: R. Greg Hursley

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MULTIFAMILY DEVELOPERS

Waterways, a 120-unit condominium, retail and marina development in Miami, was completed by Coscan Development Corp. earlier this year.

9 (10) **$114.03**

Picerne Properties
75 Lambert Lind Highway
Warwick, RI 02886

Most of this privately owned firm's activity is in Oregon and Rhode Island. Firm has three subsidiaries in Warwick, R.I., Phoenix, Ariz., and Winter Park, Fla. Firm handles less than 50 percent of design but more than 50 percent of construction in house. Current condominium projects include the 356-unit Club at Tanasbourne and the 312-unit Meridien at Murray Hill, both in Portland; and the 53-unit Natick Meadows in Cranston, R.I. *Ron Picerne, Pres.*

10 (—) **$96.52**

Newport Pacific Development Corp.
4400 MacArthur Road
Newport Beach, CA 92672

Firm is known for "infill" multifamily developments in Orange County, Calif. All design and construction are handled in house by this privately owned firm. All of firm's 1989 units were built for sale. Newport Pacific Architecture Corp. and Newport Pacific Construction Corp. are subsidiaries. Current projects include Brookshire Manor, a 116-unit senior citizen development in Downey, Calif., which will be completed in 1991. *Albert Marshall, Pres., Dev.*

11 (16) **$78.25**

Foreston Development Co.
5 Dakota Drive, 3rd Fl.
Lake Success, NY 11042

Construction volume estimated by *BD&C*. This company is a subsidiary of the Foreston Group of Lake Success, N.Y. Firm builds condominiums, apartments and single-family housing in Virginia, New York and New Jersey. *Jack Heller, Pres.*

12 (—) **$70.00**

J. Resnick & Sons Inc.
110 E. 59th St.
New York, NY 10022

This privately owned firm is new to the listing this year. Activity was 70 percent multifamily and 30 percent office space. Most of firm's business is in the state of New York. Building methods include construction management from an outside firm, competitive bidding for construction and negotiated contracts for design. The Oxford, a $100 million, 205-unit condominium development in New York City, was completed in early 1990. *Floyd Anderson, VP, Const.*

13 (12) **$61.00**

Cenvill Development Corp.
1926 10th Ave. North
Lake Worth, FL 33461

Construction volume was estimated by *BD&C*. Among company's subsidiaries are Cenvill Illinois Corp. and Cenvill Miami Beach Development Corp. This publicly traded firm constructs multifamily units in southeast Florida and Illinois. Typically, firm handles more than 50 percent of design and construction. *Richard Siemans, Pres.*

14 (14) **$58.90**

Oriole Homes Corp.
1151 Northwest 24th St.
Pompano Beach, FL 33064

Broward, Martin and Palm Beach counties in Florida are the sites of this publicly traded firm's business. Over 800 multifamily units were constructed during 1989. Firm performs more than 50 percent of design and construction in house. Current Florida projects include Huntington Lakes, a 1,700-unit condominium development in Delray Beach, and Cypress Bend, a 1,500-unit condominium structure in Pompano Beach. *Mark A. Levy, Pres.; Chris A. Feller, VP Const.*

15 (13) **$58.63**

Coscan Development Corp.
2 First Canadian Place, #2200
Toronto, Ontario M5X 1H9
Canada

Construction volume excludes single-family units, which is 50 percent of the publicly traded company's activity. More than 900 multifamily units were constructed in the U.S during 1989. The firm's parent company is Carena Developments Ltd. Firm performs less than 50 percent of design inside; competitive bidding is used for construction. *Ross Cullingworth, Pres.*

16 (20) **$55.48**

Randall Group
9500 S.W. Barbur Blvd.
Suite 300
Portland, OR 97219

This privately owned company builds multifamily units in California, Oregon and Washington State. More than 1,500 multifamily units were constructed in 1989. Five percent of the firm's volume was warehouse/business park construction. The company's subsidiaries, A/E Design and KR West Co., both in Portland, perform all design and construction services. *D.L. Kersten, VP Projects Admin.; Bob Hansen, Design Mgr.*

17 (19) **$49.50**

Edward Rose Building Enterprises
P.O. Box 937
Southfield, MI 48037

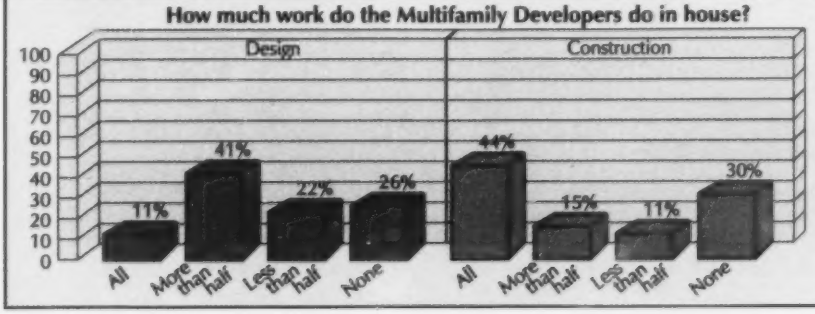
More than 1,800 multifamily units were constructed in 1989 by this privately owned company. Firm's business is in the Midwest and Eastern Seaboard. Construction volume excludes single-family construction, 10 percent of the firm's activity. Current activity includes 28 low-rise apartment projects in eight states. Firm handles all construction in house and contracts out for design services. Firm leased 90 percent of its 1989 units. *Sheldon Rose, CEO*

18 (17) **$44.00**

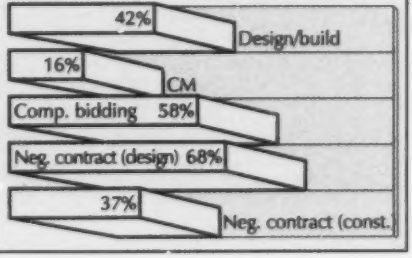
Amir Development Co.
8730 Wilshire Blvd.
Suite 300
Beverly Hills, CA 90211

This privately owned company builds primarily in Los Angeles County. Activity includes both residential and office development. Firm performs all construction and no design in house. *Paul Amir, CEO*

How much work do the Multifamily Developers do in house?



How many of the Multifamily Developers use these delivery methods?



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19 (11) **$38.50**
Weingarten Siegel Group Inc.
198 Route 9
Manalapan, NJ 07726

Construction volume for this privately owned firm was estimated by *BD&C*. Firm handles less than 50 percent of design in house and negotiates contracts for construction. Firm's activity is in New Jersey, California and Florida. *Allen Weingarten, Pres.; Ned Siegel, VP; Marc Siegel, VP*

20 (—) **$26.00**
Brim Inc.
305 N. E. 102nd Ave.
Portland, OR 97220

This privately owned company is new to the listing this year. Firm develops retirement communities nationwide. Less than 50 percent of design and construction is handled in house by this firm. Other building methods include construction management from an outside firm, competitive bidding for construction and negotiated contracts for design. Company builds and owns 75 percent of its 1989 projects. *James M. Williams, Pres.*

21 (21) **$19.46**
RGC
20 Corporate Plaza
Newport Beach, CA 92660

Firm is known for building high-density multifamily projects on the West Coast. This privately owned firm handles more than 50 percent of design but no construction in house. Firm also uses design/build. Construction volume excludes single-family units, which is 30 percent of the company's activity. The Elysian, a 348-townhome project in San Diego, Calif., is one of this firm's current projects. *Robert D. Murar, Chmn.; Harold Lynch Jr., Pres.*

***RGC's Corte Bella,** a 260-unit townhome development in Irvine, Calif., will be completed in 1991.*

Many multifamily developers are focusing on real estate management in 1990

22 (23) **$18.00**
Crowell Industries
1425 W. Foothill Blvd.
Suite 300
Upland, CA 91786

Construction volume for this privately owned company was estimated by *BD&C*. More than 50 percent of design and construction is handled in house. Company uses competitive bidding for construction and negotiated contracts for design. Approximately 346 apartment units were constructed during 1989. All of firm's activity is centered in California. Company built 100 percent of its 1989 units for sale. *Harry Crowell, Pres.*

23 (27) **$12.00**
North Cranbrook Associates
26400 Lahser, Suite #104
Southfield, MI 48034

Firm is known for multifamily construction in southeast Michigan. All construction is handled in house. Firm's activity was 90 percent multifamily and 10 percent office and distribution facilities. Cranbrook Wayne Corp. and Cranbrook Madison Corp., also in Southfield, are the firm's two subsidiaries. Firm leased 100 percent of its completed 1989 construction projects. *Leo Sklar, Partner; Marvin Rubin, Pres.*

24 (22) **$11.75**
Jack Parker Corp.
104-70 Queens Blvd.
Forest Hills, NY 11375

Construction volume for this privately owned company was estimated by *BD&C*. Activity consisted entirely of multifamily units built for sale in New York and New Jersey. Firm handles all construction but no design in house. Cobblefield, a $60 million townhouse development in White Plains, N.Y., will be completed in 1991. *Jack Parker, Chmn.; Adam Glick, Pres.; Martin P. Schwartz, Exec. VP*

25 (29) **$11.20**
Empire West Cos. Inc.
5656 E. Grant Road
Tucson, AZ 86712

Firm is know for its two-story, high-amenity apartment developments in the Southwest, but has recently expanded into California. This privately owned firm performs 50 percent of design and construction in house. Additional building methods include negotiated contracts for both design and construction. Sunbay Apartments, a 197-unit development in Fort Ord, Calif., was completed in early 1990. *Cary Marmis, Pres., Chmn.*

26 (26) **$8.75**
D & S Development Corp.
3350 Ocean Park Blvd.
Suite 106
Santa Monica, CA 90405

This privately owned firm specializes in single-family and multifamily construction in central and Southern California, and Reno, Nev. Firm's activity was 75 percent single-family construction, which is excluded from construction volume. Firm handles all construction in house and negotiates contracts for design with outside firms. *Byron Lasky, Pres.; Guy Tobin, Exec. VP*

27 (25) **$8.73**
Toll Brothers Inc.
3103 Philmont Ave.
Huntingdon Valley, PA 19006

Volume excludes single-family construction, which is 62 percent of this publicly traded firm's business. Activity is in New Jersey, Massachusetts and Pennsylvania. The firm's subsidiary, Toll Architecture Group in Morrisville, Pa., handles all design. Competitive bidding is used to secure construction contracts. Birch Hollow, a 302-unit condominium development in New Jersey, is a recent project. *Robert I. Toll, Chmn., CEO; Bruce E. Toll, Pres., COO*

28 (30) **$7.56**
General Development Co.
1111 S. Bayshore Drive
Miami, FL 33131

Firm is known for condominium developments in Florida. Volume excludes single-family construction, which was 85 percent of this publicly traded company's activity. More than 50 percent of design and all contruction are done in house. Firm also negotiates contracts for design and construction. Bimini Bay Club, a 112-unit condominium development, and Park Point, a 616-unit condominium development, are current Florida projects. *Alfredo Walling, Asst. VP*

29 (—) **$6.20**
PersonaCare
2 E. Read St., 7th Fl.
Baltimore, MD 21202

This privately owned firm is new to the listing this year. Firm specializes in senior citizen care facilities in the eastern U.S. Less than 50 percent of design and no construction are handled in house. Building methods include competitive bidding for construction and negotiated contracts for both design and construction. Courtland Gardens Residence, an $8 million, 129-unit assisted living facility in Stamford, R.I., was completed in 1989. *Travis C. Nelson, Dir., Design & Const.*

30 (6) **$5.97**
Pulte Home Corp.
33 Bloomfield Parkway
Bloomfield Hills, MI 48013

Volume shown excludes single-family detached homes, which were 99 percent of company's activity. This publicly traded firm's 16 divisions build across the country. Firm's parent company, PHM, is also in Bloomfield Hills. No construction but more than 50 percent of design done in house. Firm builds all units for sale. *Harold Sperlich, CEO; Robert Burgess, Pres.*

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HOTELS/MOTELS/ RESTAURANTS

H/M/R FIRMS PLACE $4.8 BILLION IN CONSTRUCTION

Total construction spending rose 13% from previous year's total of $4.2 billion

1 (1) **$759.90**

Marriott Corp.
One Marriott Drive
Washington, DC 20058

Construction volume was estimated by *BD&C*. Volume represents activities in new construction of hotel, restaurant and foodservice facilities. More than 92 new hotel properties were opened in 1989. Company performs more than 50 percent of construction but less than 50 percent of design in house. *Jack Graves, Exec. VP, Arch. & Const.; Bob Dacey, Sr. VP, Design; Jim Greeenwald, Sr. VP, Const.*

2 (4) **$663.46**

Holiday Inns Inc.
3645 Lamar Ave.
Memphis, TN 38195

Construction volume was estimated by *BD&C*. This firm performs less than 50 percent of design and no construction in house. Formerly Holiday Corp., the firm was recently purchased by Britain's Bass PLC and divested to include Holiday Inns only. Firm constructed 32 hotels in 1989. The 47-story Holiday Inn at Crowne Plaza, a 750-room hotel in New York City, was recently completed. *Denny Livaudais Jr., Dir., Corp. Const.*

3 (2) **$541.83**

McDonald's Corp.
Kroc Drive
Oak Brook, IL 60521

This publicly traded fast-food chain spent approximately $396 million for construction of 415 new units and $145 million for the renovation of 2,863 units. McDonald's performs no construction but more than 50 percent of design in house. Firm built for lease 100 percent of its 1989 units. The recently constructed Moscow unit is the chain's top selling unit. *Webb Blessley, VP Arch. & Const.; Tony Torchia, Const. Analyst*

***The 25-story Cleveland Marriott** at Society Center, a 400-room facility, will be completed in 1991.*

4 (11) **$500.00**

Burger King Corp.
P.O. Box 520783
Miami, FL 33152

In 1989, approximately $340 million was spent to renovate 1,200 units and $160 million to construct 40 new units by this publicly traded company. Company was purchased by Grand Metropolitan, London, from Minneapolis-based Pillsbury Co. in 1989. More than 50 percent of design but no construction performed in house. Competitive bidding is used for construction. *Paul R. Gershen, VP, Arch. & Const.*

***Burger King, which was recently acquired** by London-based Grand Metropolitan, built 40 new units, at an average of $4 million per unit, and renovated 1,200 in 1989.*

5 (3) **$313.45**

Hilton Hotels Corp.
9336 Civic Center Drive
Beverly Hills, CA 90209

Construction volume was estimated by *BD&C*. This publicly traded firm performs more than 50 percent of design but less than 50 percent of construction in house. In 1989, Hilton completed two 156-unit Cresthil Hotels in Atlanta and Valencia, Calif., each costing $12.6 million. *James L Philon, Sr. VP, RE & Const.; Robly T. Barber, Sr. VP, Devel. & Acquisition*

6 (7) **$287.32**

Golden Nugget Inc.
4315 S. Industrial Road
Las Vegas, NV 89103

This publicly traded firm specializes in casino and hotel developments in southern Nevada. More than 50 percent of the firm's design is performed in house by Atlandis Design, the firm's construction management and contract furnishings subsidiary. Negotiated contracts are used for construction. The $630 million Mirage Hotel & Casino in Las Vegas was completed in 1989. *Kenneth R. Wynn, Pres.; Peter T. Smith, Exec. VP; Joel D. Bergman, Sr. VP.*

7 (—) **$175.00**

Inter-Continental Hotels Corp.
100 Paragon Drive
Montvale, NJ 07645

This privately owned company is new to the listing this year. Company is best-known for rehabilitation of historic hotel properties. Less than 50 percent design but no construction performed in house. Construction management from an outside firm and negotiated contracts are used for construction. Completed 1989 projects include the 350-unit Forum and 600-unit Inter-Continental hotels, both in Chicago. *Edward Gossen, VP, Devel.*

8 (10) **$159.37**

Days Inn of America Inc.
2751 Buford Highway
Atlanta, GA 30324

Construction volume was estimated by *BD&C*. This firm was acquired by Tollman-Hundley Hotels, New York, in 1989. Firm constructed 176 hotels in 1989, bringing its total room count up to 120,000. Contracts are negotiated with outside firms for all design and construction. *Mike Leven, Pres.; Don Mathis, VP, Product Devel.*

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HOTELS/MOTELS/RESTAURANTS

9 (8) **$159.00**
Cardinal Industries
2040 S. Hamilton Road
Columbus, OH 43232

Construction volume for this privately owned firm was estimated by *BD&C*. Firm is known for the development of Knight's Inn and Arborgate hotels. Firm also constructs multifamily, single-family, retirement and student housing developments. All design and more than 50 percent of construction are performed in house. Competitive bidding is also used for construction. *Paul Jarvis, CEO; Monica Subtirelu, Dir., Design Svcs.*

10 (25) **$150.00**
Hardee's Food Systems Inc.
1233 N. Church St.
Rocky Mount, NC 27802

The privately owned firm was acquired by Roy Rogers, Washington, D.C., in 1989. More than 50 percent of design is performed in house. Construction management and competitive bidding are used for construction. During 1989, the firm built 131 new units in its central and eastern U.S. territories. Approximately 65 percent of new units are owned by this firm; 35 percent are franchises. *Jim Moore, VP, Design & Const.; Bert House, Dir., Corp. Const.*

11 (5) **$140.00**
General Mills Restaurants Inc.
6770 Lake Ellenor Drive
Orlando, FL 32859

Construction volume was estimated by *BD&C*. This publicly traded company performs all design and construction in house. General Mills, Minneapolis, is the parent company. Red Lobster added 35 new units in the fiscal year ending May 1990. The Olive Garden restaurants added 55 new units. In 1990, the Olive Garden plans to add 50 new units and Red Lobster plans to add 25 new units. *Joe R. Lee, Pres.; Richard D. Halterman, Sr. VP, Devel.*

12 (—) **$125.00**
Hampton Inns Inc.
1023 Cherry Road
Memphis, TN 38117

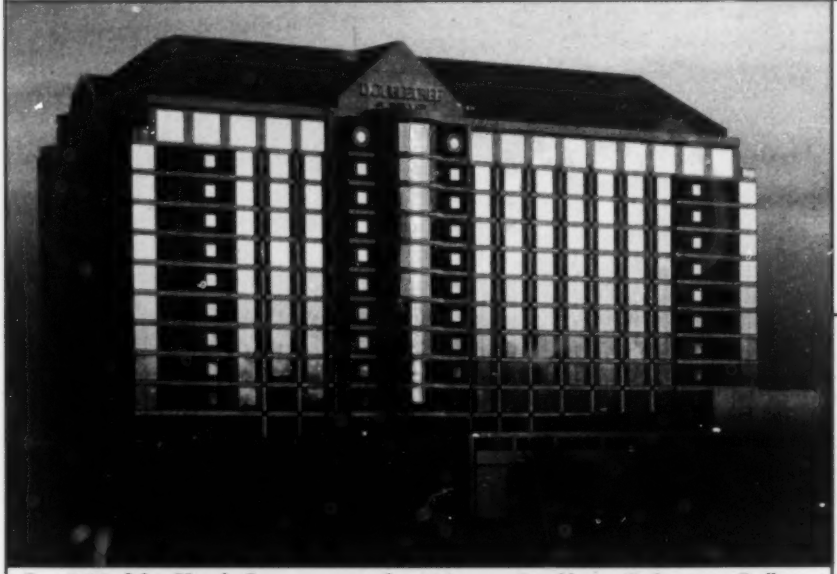
Construction volume was estimated by *BD&C*. This publicly traded company is new to listing this year. Its parent company, the Promus Cos., became an independent entity after its former parent company, Holiday Corp., was bought last year. During 1989, this firm added 25 hotels across the country. All Hampton Inns are franchised out. *Henry Carls, VP, Design & Const.*

13 (12) **$100.00**
PepsiCo
Anderson Hill Road
Purchase, NY 10577

Construction volume was estimated by *BD&C*. This publicly traded firm's restaurant division operates Pizza Hut, Kentucky Fried Chicken and Taco Bell. More than 50 percent of design is done in house and competitive bidding is used to award construction contracts. Many units were reconstructed from units which previously belonged to other restaurant chains. *D. Wayne Calloway, CEO; Donovan R. Christopherson, Sr. VP, Restaurant Devel.*

14 (15) **$81.00**
Westin Hotels & Resorts
Westin Building
2001 6th Ave.
Seattle, WA 98121

This publicly traded firm is a subsidiary of Aoki Corp., Tokyo. Firm owns and occupies 20 percent of projects and provides specifications for the remaining 80 percent built by developers. Building methods include negotiated contracts for all design and competitive bidding for construction. Projects completed in 1989 include a 500-unit hotel in Mission Hills, Calif., and a 750-unit hotel in Orlando. *Steven R. Schnoor, VP, Proj. Mgmt.*



***In 1989, Met Hotels Inc. renovated** a 312-room Doubletree Parkwest in Dallas, one of two such renovations completed by the firm in 1989.*

15 (13) **$70.00**
Hyatt Development Corp.
200 W. Madison St.
Chicago, IL 60606

This privately owned firm specializing in hotel development also constructed 30 percent office space in 1989. Firm performs no construction or design in house. Competitive bidding for construction and negotiated contracts for both design and construction are used by this firm. The Hyatt at Fisherman's Wharf, a 313-room hotel in San Francisco, was completed this year. *Michael J. Dickens, Sr. VP, Plng. & Const.; John R. Ryden, Sr. Proj. Dir.*

16 (16) **$68.00**
Interstate Hotels Inc.
680 Anderson Drive
Pittsburgh, PA 15220

This privately owned firm manages a total of 40 hotels with different product names, including Marriott and Sheraton. No design or construction is performed in house. Building methods include design/build and construction management. Current projects include the 300-room West St. Louis Marriott and the 210-suite Sheraton Suites in Miami Beach, both to be completed in 1991. *John Hardy, VP, Arch. & Const.*

17 (—) **$63.10**
Met Hotels Inc.
410 N. 44th St.
Phoenix, AZ 85008

This privately owned firm is new to the listing this year. Firm is known for the development of Doubletree and Capri hotels. Company was acquired by World Intl. Ltd. & Wharf Ltd., Hong Kong, this year. Firm builds and occupies 50 percent of its properties and provides specifications for those built by franchisees. In 1989, firm added 701 rooms and reconstructed 1,137. The Doubletree Hotel in Pasadena, Calif., was completed. *Robert E. Montgomery, Proj. Mgr.*

18 (23) **$60.00**
Ritz Carlton Hotel Co.
3414 Peachtree Road, N.E.
Atlanta, GA 30326

Construction volume estimated by *BD&C*. This privately owned firm negotiates contracts for design and construction. Company owns 50 percent of its projects and provides specifications for the 50 pecent built by franchisees. A 207-room hotel in Cleveland's vintage Terminal Tower restoration will be completed in 1991. *Larry Kessinger, Exec. VP, Const.*

19 (14) **$40.00**
New World/Ramada Inc.
P.O. Box 29004
Phoenix, AZ 85038

Construction volume estimated by *BD&C*. Firm was acquired by New World Hotel Holdings, Hong Kong, earlier this year. Firm performs no design or construction in house. Building methods include design/build, competitive bidding for construction and negotiated contracts for design and construction. Projects completed in 1989 include a 166-room hotel in Bothell, Wash., and a 214-room hotel in Phoenix. *John Kelly, VP, Design & Const.; Marshall Reynolds, Sr. VP, Devel.*

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Reconstruction of units acquired from other chains contributed to spending increase. La Quinta Motor Inns, for example, renovated three hotels in Florida and Texas.

27 (—) **$19.80**

Shoney's Restaurants
1727 Elm Hill Pike
Nashville, TN 37210

This publicly traded firm is new to listing this year. Firm added 44 restaurants to its nationwide restaurant chain in 1989. All design, but no construction is performed in house; construction management is used. The average construction cost of a Shoney's unit is $450,000. *Terry Poulson, VP, Const.*

20 (—) **$38.97**

Subway
325 Bic Drive
Milford, CT 06460

Construction volume estimated by *BD&C*. This privately owned firm performs all design and less than 50 percent of construction in house. Firm added 1,203 units in 1989. Most units were constructed in strip or large shopping malls. The average construction cost of one unit is $32,500. All units are owned and built by franchisees. *Pat Demarais, Mgr., Design; Jean Zabawar, Mgr., Const.*

24 (—) **$25.00**

Red Lion Hotel & Inns
4001 Main St.
Vancouver, WA 98663

This privately owned company is new to the listing this year. Activity is in the Northwest, Southwest and Midwest. Firm performs less than 50 percent of design and no construction in house. Company constructed two new hotels and renovated 35 of its current facilities. A 267-unit hotel in California was completed this year. *Thomas Henry, Sr. VP, Design & Const.; Gerald Evin, Dir., Const.*

28 (26) **$17.00**

S & A Restaurant Corp.
12404 Park Central Drive
Dallas, TX 75251

This company is known for its Bennigan's and Steak N' Ale establishments across the country. In 1990, this privately held firm spent $2 million for one new unit and $15 million for the renovation of 50 units. Firm performs more than 50 percent of design and all construction in house. Company's business is in 37 states. Firm plans to renovate 50 units in 1990. *Roy Study, VP, Devel.; Mark Potter, Dir., Design*

21 (20) **$35.70**

Motel 6 L.P.
14651 Dallas Parkway
Dallas, TX 75240

Construction volume estimated by *BD&C*. Firm is a limited partnership. This firm performs more than 50 percent of design, but no construction in house. Firm added 70 motels to its nationwide chain in 1989, which created 8,000 rooms. Firm currently has approximately 60,000 rooms. *Russell Miller, VP, Devel.; Austin Kerin, Dir., Const.; Henry Sossin, Dir., Arch. & Const.*

25 (22) **$25.00**

Super 8
1910 8th Ave., N.E.
Aberdeen, SD 57401

All construction and design are performed in house by this privately owned company. Firm constructed 30 new facilities in 1989, which amounted to 900 rooms and brought Super 8's total number of rooms to 47,563. Firm provides specifications for facilities owned and built by franchisees. Firm expanded into Canada with the construction of three new facilities in 1989. *John J. Kokales, Arch. Systems Proj. Mgr.*

29 (28) **$16.00**

Red Roof Inns Inc.
4355 Davidson Road
Hilliard, OH 43026

Construction volume estimated by *BD&C*. This privately owned motel chain constructed eight new properties in 1989. Typically, all construction but less than 50 percent of design are performed in house. *Drew Berlin, VP*

22 (—) **$30.10**

Denny's Inc.
15700 Valley View Ave.
La Mirada, CA 90637

Construction volume estimated by *BD&C*. Firm performs all design, but no construction in house. Approximately 40 new units were added in 1989. The average construction cost of a full-service Denny's unit is $650,000. The majority of this publicly traded company's 1989 units are franchises. *Robert Wiggins, Mgr., Const.*

26 (31) **$21.50**

Chili's Inc.
6820 LBJ Freeway
Dallas, TX 75240

This nationwide restaurant chain spent $17.5 million for the construction of 25 new units and $4 million for the renovation of 100 units. Typically, all design but no construction is performed in house by this publicly traded company. Company owns, leases and franchises its units. Expansion into the international market is planned for 1990. *Edward M. Palms, Sr. VP, Design & Const.; Richard McCaffrey, Dir., Arch.*

30 (—) **$15.82**

TCBY Enterprises
1100 TCBY Tower
425 W. Capitol Drive
Little Rock, AR 72201

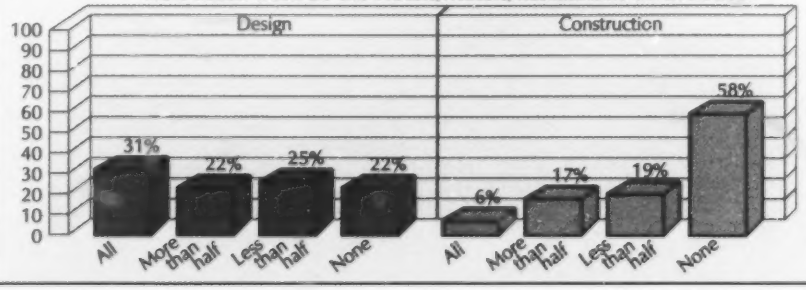
Construction volume was estimated by *BD&C*. This publicly traded company is new to listing this year. Firm specializes in constructing fast-track frozen yogurt establishments in strip or large shopping malls. All design but less than 50 percent of construction performed in house. Approximately 452 new units were added to this nationwide chain in 1989. The average construction cost of a TCBY unit is $35,000. *Richard Calder, VP, design*

23 (—) **$29.40**

International Dairy Queen Inc.
5701 Green Valley Drive
Minneapolis, MN 55437

Construction volume estimated by *BD&C*. This publicly traded company is new to listing this year. During 1989, the firm constructed 84 new units, bringing its total number of units to 5,200. The average construction cost of a Dairy Queen unit is $425,000. Firm performs all design, but no construction in house. *John Brazil, Dir., Eng. & Const.*

How much work do the Hotels/Motels/Restaurants do in house?



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HOTELS/MOTELS/RESTAURANTS

31 (38) **$15.60**

Piccadilly Cafeterias Inc.
P.O. Box 2467
Baton Rouge, LA 70821

Construction volume was estimated by *BD&C*. This publicly traded company constructed 13 new units in 1989, bringing its total number of units to 145. Firm performs all design in house. The firm's subsidiary, National Construction Co., performs all construction. *T.C. von Dameck, Exec. VP, Arch.*

32 (—) **$15.51**

Domino Pizza
P.O. Box 997
Ann Arbor, MI 48106

Construction volume was estimated by *BD&C*. This privately owned firm is new to listing this year. Firm constructed 277 units in 1989, bringing its total number of units up to 5,220. The average construction cost of a Domino's strip center unit is $56,000. Typically, all design but less than 50 percent of construction performed in house. Competitive bidding is used for construction. *Thomas Achs, Dir., Const.*

During 1989, San Antonio-based La Quinta added five hotels to its nationwide chain, three of which were renovated facilities acquired from other chains.

33 (35) **$15.00**

A & W Restaurants Inc.
17197 N. Laurel Park Drive
Livonia, MI 48152

This publicly traded company has 668 units in 46 states, 40 of which were constructed in 1989. Firm's major activity was in the reconstruction of other systems' units into A & W units. More than 50 percent of design, but no construction is performed in house. Firm negotiates contracts for design and uses competitive bidding for construction. Approximately 60 percent of the firm's 1989 units are franchises. *Michael Smith, VP, Const. Devel.*

36 (—) **$10.00**

Intergroup Development Inc.
1400 Post Oak Blvd.
Houston, TX 77056

This privately owned firm is new to the listing this year. Firm's business is in Texas and Florida. Firm's activity was 76 percent hotel and 24 percent multifamily construction. No design or construction is performed in house. The Sheraton Astrodome Hotel, an 800-room facility in Houston, was completed in 1989. *Tandy Lofland, Pres.; Matt Dilick, VP*

38 (—) **$8.00**

Au Bon Pain
19 Fid Kennedy Ave.
Boston, MA 02210

This privately owned firm is new to listing this year. French fast-food restaurants are the developments of this company. Firm constructed 25 units in 1989, which brought its total number of units to 75. Units are located on the East Coast and in Illinois. All design but less than 50 percent of construction done in house. *John Billingsley, Dir., Design & Const.*

34 (21) **$15.00**

La Quinta Motor Inns Inc.
P.O. Box 790783
San Antonio, TX 78279

This nationwide hotel chain constructed three new facilities in 1989. More than 50 percent of design is performed in house. Construction contracts are awarded through competitive bidding. Acquiring and converting other chains' facilities is a specialty of this publicly traded firm. Firm builds and manages all properties. A 130-room conversion in New Mexico was completed earlier this year. *William Vandenbosch, VP, Arch. & Const.*

37 (—) **$9.00**

White Castle System Inc.
555 W. Goodale St.
Columbus, OH 43215

Construction volume for this privately owned firm was estimated by *BD&C*. This nationwide fast-food chain constructed 15 new units in 1989. Firm performs all design, but no construction in house; construction management is used. The average construction cost of a White Castle unit is $600,000. *Jack Hufner, Dir., Eng.*

39 (40) **$4.00**

Furr's/Bishops Cafeterias
P.O. Box 6747
Lubbock, TX 79493

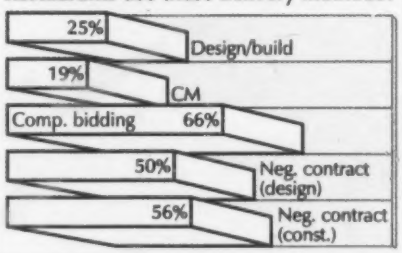
In 1989, this publicly traded company added 20 of its cafeteria style units in the Midwest, Southwest and West. Firm performs more than 50 percent of design but less than 50 percent of construction in house. Firm builds and owns all of its units. New units were recently completed in Phoenix and Tulsa, Okla. *Gary Armstrong, Mgr., Const.*

35 (—) **$13.00**

Al Copeland Enterprises Inc.
1333 S. Clearview Parkway
Jefferson, LA 70121

This privately owned company is known for the nationwide development of Popeye's Chicken & Biscuits and Church's Chicken units. Firm spent $3 million on three new Popeye's units and $10 million to reconstruct 30 units. More than 50 percent of design and construction are performed in house. *Jack Cook, VP, Devel.; Glen Harris, Dir., Retail Facilities*

How many of the Hotels/Motels/ Restaurants use these delivery methods?



40 (—) **$2.50**

GC Development Corp.
5151 Glenwood Ave.
Raleigh, NC 27612

This privately owned firm is known for the construction of Golden Corral Steak Houses nationwide. Parent firm is Investors Management Corp., also in Raleigh. Four units were built this year in Texas. All construction is performed in house. Contracts are negotiated for design. *Andrew L. Clement, Dir., Const.*

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GOVERNMENT AGENCIES

CONSTRUCTION EXPECTED TO REMAIN LEVEL

Spending by some state agencies increases while defense-related federal construction declines

1
(4)
$1,522.00

U.S. Postal Service
475 L'Enfant Plaza
Washington, DC 20260

The Postal Service continues to expand its use of competitive negotiations and design/build delivery. Several major design/build projects are under way in the New York City area. The agency has some 120 projects under way utilizing its "Kit of Parts" program involving standard plans for facilities up to 35,000 square feet. The program is being extended to facilities up to 60,000 square feet. *Stanley W. Smith, Asst. Postmaster General; John N. Wiernicki, Dir., Design & Const.*

2
(1)
$1,300.00

U.S. Department of Energy
1000 Independence Ave., S.W., AD-22
Washington, DC 20585

The Department of Energy's building construction involves research facilities and weapons production facilities across the country. Design/build, construction management and negotiated contracts for design and construction are used by this federal agency in addition to competitive bidding. Under way is the $8 billion superconducting particle accelerator project in Texas. *Robert L. Weller, Acting Dir., Proj. & Fac. Mgmt.*

This 300,000-sq.-ft. mail processing facility in Manasota, Fla., was recently completed for the U.S. Postal Service.

3
(6)
$895.59

U.S. Air Force
Engineering and Services
LEEDP
Washington, DC 20330

Approximately 90 percent of building construction reported above for the Air Force is administered by the U.S. Army Corps of Engineers, and the remaining 20 percent by the U.S. Naval Facilities Engineering Command. Competitive bidding is used exclusively for construction. Some design but no construction done in house. *Major General Joseph A. Ahearn, Dir., Eng. & Svcs.; Brigadier General James E. McCarthy, Dep. Dir.*

5
(3)
$771.53

U.S. Army Corps of Engineers
Resource Management Office (CERM-FP)
Washington, DC 20314

All building construction is done at military installations and includes family housing. Less than 50 percent of design done in house; no construction done in house. The construction volume reported above does not include work administered by the Corps of Engineers for the U.S. Air Force, which is listed separately in the survey. *Richard Hanson, Chief, Const. Div.*

7
(32)
$711.28

New Jersey Division of Building and Construction
CN 235
Trenton, NJ 08625

Asbestos removal and new correctional facilities contributed to an increase of more than $600 million in construction reported by this state agency. Competitive bidding is used exclusively for construction. Less than 50 percent of design done in house; no construction done in house. *Thomas H. Bush, Dir.; Charles A. Strano, Dep. Dir.*

8
(7)
$663.09

U.S. Veterans Administration
810 Vermont Ave., N.W.
Washington, DC 20420

Ninety-eight percent of the agency's construction involves hospitals/health care. Among projects under construction are replacement medical centers in Houston, Baltimore and Augusta, Ga.; and nursing homes, clinic additions and ambulatory care facilities in various locations across the country. Reconstruction accounted for roughly 40 percent of total volume. *David Lewis, Asst. Secretary for Acquisition & Fac.*

9
(8)
$662.90

U.S. General Services Administration (GSA)
18th & F Streets, N.W.
Washington, DC 20405

Office buildings account for 80 percent of GSA's construction; border stations and courts account for the remaining 20 percent. The agency has recently placed a new emphasis on border stations. Construction reported above for the fiscal year ended September 1990 is down by roughly $100 million from the previous year. *William C. Coleman, Commissioner, Public Bldg. Svcs.*

4
(2)
$813.32

U.S. Naval Facilities Engineering Command
200 Stoval St.
Alexandria, VA 22332

Some design but no construction done in house. Negotiated contracts for design, competitive bidding for construction and design/build are used by this agency. Construction volume reported above does not include work done by the agency for the U.S. Air Force or the U.S. Marine Corps, which are listed separately in this survey. *Rear Admiral D.E. Boltorff, Commander*

6
(22)
$757.51

Illinois Capital Development Board
401 S. Spring St., 3rd Fl.
Springfield, IL 62706

Construction volume reported above is for the fiscal year ended June 30, 1990. Volume has increased more than 300 percent over the previous year due to a new prison construction program and numerous asbestos-removal projects. Less than 50 percent of design and no construction done in house. Competitive bidding is used exclusively for construction. *Gary Skoien, Exec. Dir.; Edward Smith, Const. Dir.; Michael Keith, Const. Mgr.*

10
(9)
$594.43

N.Y.C. Department of General Services
1 Centre St.
New York, NY 10007

Less than 50 percent of design and no construction done in house. The department is best-known for rehabilitation and renovation of city-owned buildings, including museums, jails, libraries, courts and transitional housing facilities. Design/build, construction management and competitive bidding are used for construction. *Kenneth J. Knuckles, Commissioner; William Jurman, Acting Dep. Commissioner*

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GOVERNMENT AGENCIES

11 (10) **$587.00**
New York State Dormitory Authority
161 Delaware Ave.
Delmar, NY 12054

This agency provides financing and facilities construction for a number of institutions in the state of New York, including state universities, nonprofit colleges and universities, and nonprofit hospitals. Educational facilities accounted for 88 percent of construction. Less than 50 percent of design and no construction done in house. *John C. Egan, Exec. Dir.; Sam R. Davidson, Dep. Exec. Dir., Const.*

12 (12) **$560.00**
Florida Division of Building Construction
2737 Centerview Drive
Tallahassee, FL 32399

Correctional facilities, state offices and health care projects account for approximately 75 percent of this agency's construction. Design/build, construction management, competitive bidding for construction, and negotiated contracts for design and construction are used. No design or construction done in house. *William Scaringe, Div. Dir.; Harold Barrand, Asst. Div. Dir.*

13 (11) **$472.50**
U.S. Marine Corps
Fac. & Svcs. Div.
Marine Corps (GH) HQ
Code L
Washington, DC 20380

Housing and offices account for approximately one-half of construction reported by the Marine Corps. Less than 50 percent of design and no construction done in house. Negotiated contracts for design and competitive bidding for construction are used. All construction for the Marine Corps is administered by the U.S. Naval Facilities Engineering Command. *Brigadier General W.T. Adams, Dir., Fac. & Svcs. Div.*

14 (19) **$338.60**
California Department of Corrections
501 J St., Suite 300
Sacramento, CA 94283

All construction involves prisons. The construction volume reported above for the fiscal year ended June 1990 includes the construction of 2,420 new units. More than 50 percent of design but no construction done in house. Construction volume for the current fiscal year is expected to increase marginally to $344 million. *Kyle McKinsey, Dep. Dir., Plng. & Const.; G. Kevin Carruth, Asst. Dep. Dir.*

15 (23) **$257.00**
Massachusetts Division of Capital Planning and Operations
One Ashburton Place
Boston, MA 02108

Prisons accounted for 50 percent of this state agency's construction, and health care projects accounted for another 20 percent. In addition to competitive bidding for construction, design/build and construction management are used. Projects under way include two prisons utilizing modular construction. *John I. Carlson Jr., Dep. Commissioner; John F. Bradshaw, Assoc. Dep. Commissioner*

16 (15) **$253.00**
Texas Department of Corrections
P.O. Box 99 NC
Huntsville, TX 77340

Construction volume reported above is for the fiscal year ended Aug. 31, 1990. Construction volume for the current year is expected to increase to roughly $500 million and will include four 2,250-bed units and six 1,000-bed units. Less than 50 percent of design and construction done in house. All construction involves correctional facilities in Texas. *Robert E. Petty IV, Asst. Dir., Fac. Div.*

17 (18) **$252.96**
Connecticut Department of Public Works
165 Capitol Ave.
Hartford, CT 06106

New legislation allows this agency to conduct direct negotiations with design professionals and contractors to accommodate an accelerated prison expansion program. Prisons account for 65 percent of construction and higher education for 8 percent. Design/build, construction management, competitive bidding for construction and negotiated contracts for design and construction are used by this state agency. *Richard Piotrowski, Dep. Commissioner*

18 (26) **$225.00**
Michigan Office of Facilities
P.O. Box 30026
Lansing, MI 48909

The construction volume reported above is for the 1989 calendar year; construction in the current year is expected to decrease to $125 million. Correctional facilities account for 60 percent of construction, educational facilities for 25 percent and offices for 15 percent. *Larry Bennett, Dir.*

19 (13) **$220.40**
New York State Office of General Services
Tower Building
Empire State Plaza
Albany, NY 12242

The Design & Construction Group of the Office of General Services is primarily known for construction of correctional facilities and rehabilitation of various state-owned buildings. Correctional facilities represent 75 percent of construction work. More than 50 percent of design but no construction done in house. *Raymond W. Casey, Exec. Dir., Design & Const. Group; David Seiffert, Dir., Const.; William O'Connor, Dir., Design*

20 (25) **$211.50**
North Carolina State Construction Office
300 N. Salisbury
Raleigh, NC 27603

Schools/educational facilities account for approximately 68 percent and offices for 15 percent of this state agency's construction. Less than 50 percent of design and no construction done in house. Projects currently under construction include three office buildings in Raleigh. *Speros J. Fleggas, Dir.; C. Carlton Myrick, Dep. Dir.*

21 (16) **$209.90**
U.S. Public Health Service
5600 Fishers Lane
Rockville, MD 20857

Hospitals/health care facilities accounted for 55 percent of construction volume, while labs and research facilities accounted for another 40 percent. Current projects include a program to build health facilities for the Indian populations in various Western states and Alaska, and several lab facilities in Bethesda, Md. No design or construction done in house. *Kathleen F. Martin, Dir., Div. of Health Fac. Plng; Luther Flouton, Chief, Plng. & Review*

22 (5) **$205.35**
Ohio Division of Public Works
30 E. Broad St., 35th Fl.
Columbus, OH 43266

Less than 50 percent of design done in house; no construction done in house. This state agency uses construction management and negotiated design contracts in addition to competitive bidding for construction. A variety of educational and sports facilities for higher education accounts for nearly half of construction volume. *Carole J. Olshavsky, Dep. Dir., Public Works; Jack Frost, State Architect*

The California Department of Corrections has implemented a prison expansion program that utilizes modular units.

23 (14) **$190.00**
South Carolina Division of General Services
1201 Main St.
Columbia, SC 29201

School-related construction and correctional facilities account for approximately one-half of this agency's work. Design/build, construction management and competitive bidding for construction are used. *William J. Clement, Asst. Div. Dir.; Cecil Mills, Mgr., Const. & Plng.; Marion Dorsey, State Eng.*

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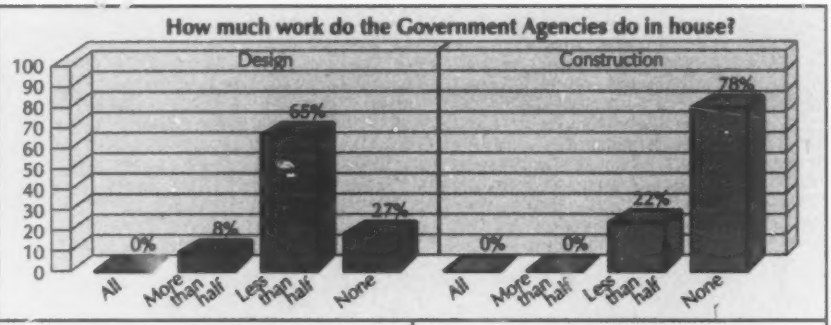
24 (28) **$183.12**

Maryland Department of General Services
301 W. Preston St.
Baltimore, MD 21201

Schools/educational facilities and correctional facilities each account for 32 percent of this state agency's construction volume, followed by offices (12 percent) and health care (8 percent). Less than 50 percent of design and no construction done in house. *Earl Seboda, Secretary; Eric Walbeck, Asst. Secretary, Eng.; Dale Strait, Dir., Eng. & Const.*



25 (22) **$171.00**

NASA
400 Marilyn Ave., S.W.
Code NXG
Washington, DC 20546

NASA construction projects include space flight control centers, space shuttle manufacturing facilities, materials research labs, electronics labs and life sciences labs. Design/build, construction management and competitive bidding are used for construction. Some design but no construction done in house. *Billie J. McGarvey, Asst. Assoc. Administrator, Fac. Eng.*

29 (38) **$143.00**

Hawaii Dept. of Accounting and General Services
P.O. Box 119
Honolulu, HI 96810

Construction volume estimated by *BD&C*. Less than 50 percent of design and construction done in house. Competitive bidding for construction and negotiated contracts for design are used. Schools account for more than half of this state agency's construction. *Russel Nagata, Dir.; Teuane Tominaga, State Pub. Wks. Eng.*

33 (34) **$104.00**

Pennsylvania Department of General Services
18th & Herr Streets
Harrisburg, PA 17120

Hospitals/health care account for 30 percent of building construction, prisons for 25 percent and schools/educational facilities for another 15 percent. Less than 50 percent of design and no construction done in house. The department has completed its first modular prison units and has plans to utilize them at other locations. *H.P. Anderson, Dep. Secretary, Pub. Wks.; William Kosco, Dir., Eng./Arch.; Roy Walker, Dir., Const.*

26 (21) **$160.00**

Alabama Building Commission
800 S. McDonough St.
Montgomery, AL 36130

Schools account for 60 percent of this state agency's construction, prisons for 20 percent and offices for 15 percent. No design or construction done in house. Only competitive bidding is used for construction. Construction volume for the current year is expected to increase to $176 million. *Phil Sharpe, Dir.*

30 (29) **$135.00**

U.S. Department of Transportation
400 7th St., S.W.
Washington, DC 20590

This federal agency's construction primarily involves stations for the U.S. Coast Guard, and communications, navigational and air traffic control centers for the Federal Aviation Administration. Less than 50 percent of design and no construction done in house. Only competitive bidding is used for construction. *Angelo Picillo, Dep. Dir., Admin. Svcs. & Property Mgmt.*

34 (37) **$100.99**

Missouri Division of Design and Construction
Box 809
Jefferson City, MO 65102

Only competitive bidding for construction and negotiated contracts for design are used by this state agency. Construction volume is expected to decrease to roughly $75 million during the current fiscal year, which will end in June 1991. Recent projects include a $20 million state information center and a $12 million office building in Jefferson City, and a $10 million veterans' nursing home in St. Louis. *Ronald Norris, Dir.; Michael Berendzen, Chief Arch.*

27 (20) **$157.13**

Federal Bureau of Prisons
320 First St., N.W.
Washington, DC 20534

This agency is responsible for construction, expansion and renovation of federal prisons throughout the country. A large expansion program is expected to drive construction volume upward in the near future. Less than 50 percent of design and construction done in house. *Scott Higgins, Chief, Fac. Devel.*

31 (27) **$120.00**

Minnesota Div. of State Bldg. Const.
State Admin. Bldg., G-10
50 Sherburne
St. Paul, MN 55155

Less than 50 percent of design and no construction done in house. Schools/educational facilities accounted for 45 percent of construction, followed by offices and prisons (20 percent each). Current projects include a judicial office center, a historical center and restoration of the State Capitol, all projects located in St. Paul. *Bruce Taber, Dir.; A. Thomas Ulness, Asst. Dir.*

35 (35) **$100.00**

Utah Div. of Facilities Construction and Mgmt.
4110 State Office Bldg.
Salt Lake City, UT 84114

Construction volume estimated by *BD&C*. Projects for higher education account for a major share of this agency's construction. No design or construction done in house. *Wayne J. Bingham, Asst. Dir.*

28 (49) **$150.00**

Louisiana Dept. of Fac. Planning and Control
P.O. Box 94095
Baton Rouge, LA 70804

Educational facilities accounted for 40 percent of building construction, followed by hospitals/health care (25 percent) and prisons (20 percent). Construction volume is expected to decrease to roughly $100 million during the current calendar year. No design or construction done in house. Only competitive bidding is used for construction. *James R. Hill, Chief Arch.; Henry C. Eyre, Chief Eng.*

32 (33) **$114.00**

Wisconsin Division of State Facilities Mgmt.
P.O. Box 7866
Madison, WI 53707

Less than 50 percent of design and no construction done in house. Construction volume includes prisons (25 percent), schools/educational facilities (25 percent) and laboratories/research facilities (20 percent). Reconstruction accounted for half of this agency's work. Current projects include three buildings for the University of Wisconsin at Madison. *Robert Brandherm, Acting Administrator; Fred Loewen, State Arch.; Gerald Germanson, Chief, Proj. Mgmt.*

36 (31) **$100.00**

Washington Division of Engineering & Arch. Svcs.
206 General Admin. Bldg.
Olympia, WA 98504

Competitive bidding as well as design/build are used for construction by this state agency. No design or construction done in house. Schools and other educational facilities account for 43 percent of construction, followed by health care (23 percent), offices (19 percent) and correctional facilities (15 percent). *Maris Grobins, Acting Asst. Dir.; John Lynch, Eng. Mgr.; Eric Benson, Arch. Mgr.*

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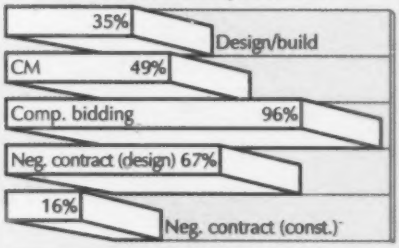
GOVERNMENT AGENCIES

37 (—) **$80.00**
Virginia Dept. of General Services
203 Governor St.
Richmond, VA 23219

Less than 50 percent of design and construction done in house. Competitive bidding, construction management and negotiated contracts are used for construction. Reconstruction accounted for $50 million of total construction reported above. Projects scheduled for completion in 1991 include a new office building in Richmond and reconstruction projects at 18 other office buildings. *Leo Own, William Campbell, Proj. Mgr. Unit Chiefs; Ike Friedlander, Proj. Eng.*

How many of the Government Agencies use these delivery methods?



46 (46) **$25.00**
Texas Purchasing & General Services Commission
P.O. Box 13047
Austin, TX 78711

Nearly all work done by this state agency involved construction or renovation of office space. Construction volume during the current fiscal year is expected to decline to roughly $12 million. *John Hodges, Dir., Fac. Const. & Space Mgmt. Div.*

38 (42) **$75.00**
Kansas Division of Architectural Services
625 Polk St.
Topeka, KS 66603

Prisons account for the largest share of construction (50 percent), followed by educational facilities (25 percent) and health care (10 percent). The design of projects under $500,000 is done in house, but no construction is done in house. Construction management and competitive bidding are used for construction. Construction volume for the current year is expected to remain level. *Ed Martin, Dir.; Gerald Carter, Dir., Plng. & Design*

42 (40) **$50.00**
Colorado Department of Corrections
2862 South Circle, #400
Colorado Springs, CO 80906

Some design and construction done in house. Construction management, competitive bidding for construction and negotiated contracts for design are used. *John Gillogley, Dir., Fac. Svcs.*

47 (48) **$18.00**
Los Angeles Department of Public Works
200 N. Main St.
Los Angeles, CA 90012

Some design but no construction done in house. Construction management is used in addition to competitive bidding. Major projects under way include a $275 million addition to the Los Angeles Convention Center and a $115 million expansion of the central library. *P.J. McCarty, Prin. Arch.; Albert Jue, William Holland, Sr. Archs.*

39 (45) **$65.00**
Arizona Facilities Design and Construction Office
1700 W. Washington St.
Phoenix, AZ 85007

Offices accounted for 50 percent of the construction dollars reported above, while correctional facilities accounted for the remainder. Construction volume for the current fiscal year ending in June 1991 is expected to decrease to approximately $48 million. No design or construction done in house. Projects scheduled for completion in 1991 include two medium-security prisons and office buildings in Tucson and Phoenix. *Steve Conner, Mgr.*

43 (41) **$50.00**
District of Columbia Dept. of Public Works
2000 14th St., N.W.
Washington, DC 20009

Prisons account for 40 percent of building construction, offices for 25 percent, educational facilities for 25 percent and various police and fire stations, libraries, etc., for the remaining 10 percent. Less than 50 percent of design and construction done in house. *Cyril Crandon, Administrator, Design, Eng. & Const.; Mo Fateh, Chief, Bldg. Const. Svcs.*

48 (50) **$18.00**
San Francisco Dept. of Pub. Works/Bur. of Arch.
City Hall, Rm. 265
San Francisco, CA 94102

This agency is responsible for all public buildings in San Francisco. More than 50 percent of design but no construction done in house. Design/build, construction management, competitive bidding for construction and negotiated design contracts are used. The city has funded seismic-related projects with bonds totaling nearly $400 million. Other projects include a health research center and various police facilities. *Norman Karasick, City Arch.; Arthur Lee, Asst. City Arch.*

40 (43) **$63.00**
Arkansas State Building Services
1515 W. Seventh St., #700
Little Rock, AR 72201

Educational facilities account for 65 percent of this agency's building construction. Among recent projects are a performing arts center, a law school building and a dormitory complex at campuses of the University of Arkansas. No design or construction done in house. Competitive bidding is used exclusively for construction. *Jerry Sanders, State Arch.*

44 (47) **$40.50**
Nebraska State Building Division
State Capitol Building, 10th Fl.
Lincoln, NE 68509

Less than 50 percent of design and construction done in house. Various projects for institutions of higher education account for more than half of this agency's construction volume. *Danny Schlichenmaier, Dep. Administrator; Wayne Haller, Steve Hotovy, Archs.*

49 (—) **$13.69**
Texas Department of Mental Health
P.O. Box 12668
Austin, TX 78711

Most construction work involved renovation of various health care facilities around the state. No construction and less than 50 percent of design done in house. Design/build, construction management and competitive bidding are used for construction. *W. Patrick Terry,Dir., Support Svcs.; Vernon Dunagin, Mgr., Plant Const.*

41 (24) **$60.00**
Boston Public Facilities Department
26 Court St., 6th Fl.
Boston, MA 02108

Schools accounted for approximately 50 percent of construction, health care facilities for 30 percent and offices and jails for 10 percent each. Among current projects are police stations, hospital renovation projects and a library addition. No design or construction done in house. Competitive bidding is used exclusively for construction. *Joseph Lewin, Dep. Dir.; Lisa Chapnick, Dir.; Victor Hagan, Chief Eng.*

45 (44) **$40.00**
California Department of General Services/Office of the State Architect
400 P St., 5th Fl.
Sacramento, CA 95814

More than 50 percent of design done in house but less than 50 percent of construction. Only competitive bidding for construction and negotiated design contracts are used. Construction volume is expected to increase by about 10 percent during the current year. *Paul Neel, State Arch.; Larry Guthrie, Chief, Arch. & Eng. Svcs.; Jerry Burchfield, Chief, Const. Svcs.*

50 (39) **$11.66**
City of Houston
P.O. Box1562
Houston, TX 77251

Airport terminal construction accounted for the largest share of Houston's building construction. Less than 50 percent of design and no construction done in house. An $18 million police command station is under construction, and a $54 million international airport terminal was completed in 1990. *Howard Nicholas, Dir., Capital Proj. Dept.; Richard Scott, Dep. Dir.*

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HEALTH CARE

HEALTH CARE ORGANIZATIONS REPORT 3% INCREASE

Top three firms drive the increase; new hospital construction decreases across the category

1
(1)
$565.00

Kaiser Foundation Hospital and Health Plans
One Kaiser Plaza
Oakland, CA 94612

Construction volume was estimated by *BD&C*. The firm operates mainly on the West Coast. Representative projects include a hospital in Santa Rosa, Calif., and a medical office building in San Diego. Less than 50 percent of design and construction is performed in house. Design/build and construction management contacts are awarded. *W.J. Logan Jr., Mgr., Prop. & Fac.*

2
(5)
$203.00

Humana Inc.
P.O. Box 1438
Louisville, KY 40201

The firm operates mainly in the South and recently completed two hospitals in Florida and one in Texas. The firm also recently acquired a hospital in each of those states. All design is performed in house, while all construction is completed by outside contractors. Competitive bidding and negotiated contracts are used to secure outside work. *Doug Heisler, VP Design & Const.; Edwin Green, Dir., Plng. & Design; Ralph Steinhauser, Dir., Fac. Devel.*

3
(3)
$200.00

National Medical Enterprises Inc.
2700 Colorado Ave.
Santa Monica, CA 90404

This publicly traded firm has recently completed work on the University of Southern California's 275-bed teaching hospital and its new 60,000-sq.-ft. medical clinic. A 125-bed acute care facility in San Ramon, Calif., has also been finished. Half of the reported expenditures are for reconstruction work. No design or construction work is done in house. *Sherwin E. Small, Exec. VP, Const. & Design; Mark E. Schieff, Sr. VP, Const. & Design*

4
(2)
$194.82

State of New York Facilities Development Corp.
44 Holland Ave.
Albany, NY 12208

The firm established a new unit to review consultant designs and developed a CADD program to review program criteria. A $36 million inpatient hospital for mentally ill children and adolescents is currently in the design stage. The interior and mechanical reconstruction of 13 facilities is currently under way. *Walter J. Hinckley, Exec. Dir.; Sidney L. Delson, Design Dir.; Jerome Pasichow, Dir., Design & Const.*

5
(8)
$122.00

Massachusetts General Hospital
Fruit Street, Dept. WEH-2
Boston, MA 02114

Construction volume includes $5 million in reconstruction work. In addition to the dollar amount listed above, the firm constructed $33 million worth of offices. The firm has separate design and construction subsidiaries but performs less than 50 percent of design in house. Design/build and construction management services by outside firms are used. *Anand K. Seth, Dir., Fac. Eng.; C.H. Hall, Proj. Dir.*

6
(11)
$105.00

GHM Inc.
333 E. River Drive
East Hartford, CT 06108

Construction volume estimated by *BD&C*. This privately owned firm performs less than 50 percent of design and construction in house. Riverside Construction Inc. is the firm's subsidiary. All types of construction methods, except design/build, are used by the firm. Projects are mainly located on the East Coast. *Carl Passanisi, Dir., Const.*

7
(10)
$80.00

Universal Medical Buildings
839 N. Jefferson St.
Milwaukee, WI 53202

Construction volume was estimated by *BD&C*. Fixed-price negotiated contracts are utilized for construction. All design is performed in house by this publicly traded firm. Outpatient medical facilities are the firm's specialty. The company builds, owns and occupies 20 percent of its projects and leases the rest. *Joseph Checota, CEO; Jerry W. Spencer, Sr. VP, Arch.; Charles E. Gibson, Sr. VP, Const.*

8
(14)
$57.74

Harris Methodist Health System
1301 Pennsylvania Ave.
Fort Worth, TX 76104

This privately owned, nonprofit firm owns and occupies 100 percent of the buildings it constructs. No design or construction is performed in house. Construction management from outside firms is used. Competitive bidding is utilized for awarding contracts. *Ron Smith, Pres.; Bernard Alger, Mng. Dir., Oper.; Ron Bourland, Mng. Dir., Admin.*

9
(13)
$54.08

Shriners Hospital for Crippled Children
Box 31356
Tampa, FL 33631

The construction volume for 1989 was derived from six new projects and no reconstruction work. Construction volume is anticipated to increase by more than 7 percent in 1990. The firm uses construction management from outside companies and owns and occupies 100 percent of the space it creates. *Lewis Molner, Exec. VP*

***Humana Hospital's new medical and surgical addition** in East Montgomery, Ala., is typical of work going on in the Sunbelt.*

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HEALTH CARE

10 (4) **$50.00**
Charter Medical Corp.
P.O. Box 209
Macon, GA 31298

Construction volume was estimated by *BD&C*. The construction volume was generated from 10 projects currently under way or recently completed. This privately owned firm performs no design or construction in house. Competitive bidding for construction and negotiated contracts for design and construction are used to secure services. *J. Rodney Laughlin, Exec. VP, Plng. & Devel.; R. Lee deLoache, Sr. Exec. Dir., Design & Const.*

New construction in California and the Sunbelt was the focus of the top three firms in this category

17 (—) **$15.00**
Inova Health Systems
8001 Braddock Road
Springfield, VA 22151

The firm is a new listing this year. One-third of the construction volume is for reconstruction projects. Total volume is anticipated to increase by $10 million during 1990 for this nonprofit firm that operates in northern Virginia. No design and no construction is performed in house. Design/build and construction management services from outside firms are used. *Murray Smith, Asst. VP, Fac. Devel.*

11 (12) **$42.75**
New York City Health & Hospital Corp.
346 Broadway, 12 West
New York, NY 10013

The majority of this agency's construction volume is generated from seven projects, including the $8 million Goldwater Skilled Nursing Facility and the $5 million Coney Island Emergency Room. The agency performs more than 50 percent of design and less than 50 percent of construction in house. *Dennis R. Newman, Asst. VP/ Chief Eng.; Robert Weigand, Dep. Chief Eng., Const.; Joseph Squicciarini, Dep. Chief Eng., Design*

14 (19) **$25.00**
Johns Hopkins Hospital
600 N. Wolfe St.
Baltimore, MD 21205

The construction volume for this institutional owner includes $4 million for reconstruction projects. More than 50 percent of design and construction is performed in house. Design/build and construction management services from outside firms are used. Recent projects include a two-story addition on top of Hopkins' Wilmer Eye Institute and an ambulatory care building. *William French, Dir. of Const.; Geoff Haley, Dir., Plant Maintenance*

18 (17) **$13.00**
National HealthCorp. L.P.
P.O. Box 1398
Murfreesboro, TN 37310

Construction volume estimated by *BD&C*. New construction projects accounted for $5 million of total volume for this publicly traded firm. All of the firm's construction is for buildings it owns and occupies. No design or construction services are performed in house. Competitive bidding is used for construction. *Tom Morgan, Asst. VP, RE & Devel.*

12 (7) **$40.00**
American Medical International
P.O. Box 25651
Dallas, TX 75225

This publicly traded firm moved its headquarters to Texas this year. One quarter of the firm's construction volume was from reconstruction. The firm owns and occupies 50 percent of its projects and leases the remainder to others. Current projects are located in Tarzana, Calif., North Hollywood, Calif., and Atlanta. *John Mastervich, RE Dir.*

15 (15) **$20.00**
OSF Health Care System
800 NE Glen Oak Ave.
Peoria, IL 61603

Construction volume estimated by *BD&C*. Reconstruction work accounted for approximately 15 percent of the firm's volume. This privately owned firm performs less than 50 percent of design and no construction in house. Design/build services from outside firms are used. *Rich Richman, Corp. Dir., Eng.; Wesley Becker, Mgr., Fac. Design*

19 (—) **$12.00**
Children's Memorial Hospital
2300 Children's Plaza
Chicago, IL 60614

Construction volume estimated by *BD&C*. Firm is a new listing this year. Ten percent of the firm's construction volume is for research facilities and the rest is for hospital construction. A new hospital in Westchester, Ill., is currently under way. Less than 50 percent of design and no construction is performed in house. Design/build is used by the firm. *Gilbert LiBrizzi, VP Design and Const.*

13 (9) **$40.00**
Life Care Services Corp.
800 Second Ave.
Des Moines, IA 50309

All construction and less than 50 percent of design is performed in house by this privately owned firm. The parent firm, Weitz Corp., provides the contractor services, while the outside design services are performed under negotiated contracts. Life-care retirement communities with health centers were built in Lombard, Ill., Delray Beach, Fla., and Baltimore. *William Klemme, VP, Dir. Devel.; Steve Hooker, VP, Dir. Devel.*

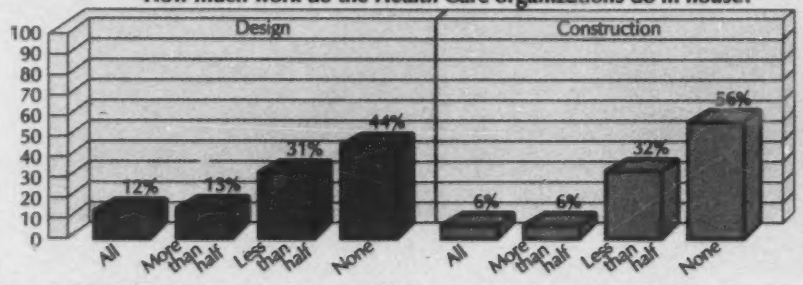
16 (—) **$17.50**
Basic American Medical
4000 East Southport
Indianapolis, IN 46237

Construction volume was estimated by *BD&C*. The firm, which operates mainly in the Southeast, is a new listing this year. Seven projects are currently under way. No design and less than 50 percent of construction is performed in house. In-house construction is mainly limited to renovation projects. Design/build is used for simple, lower-budget projects and competitive bidding is used for the balance. *John Seats, VP Const.*

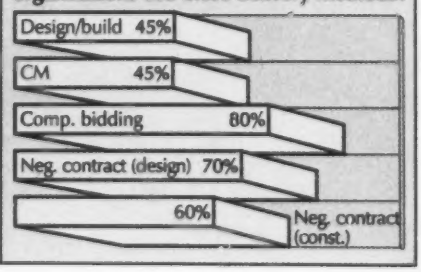
20 (16) **$8.40**
Sutter Health
1111 Home Ave.
Sacramento, CA 95825

Construction volume was estimated by *BD&C*. More than half of the firm's volume represents construction of medical offices which it owns and occupies. No design and no construction is performed in house by this firm that operates in northern California. Design/build and construction management services are utilized by the firm. *Patrick Idler, Dir., Fac. Devel.*

How much work do the Health Care organizations do in house?



How many of the Health Care organizations use these delivery methods?



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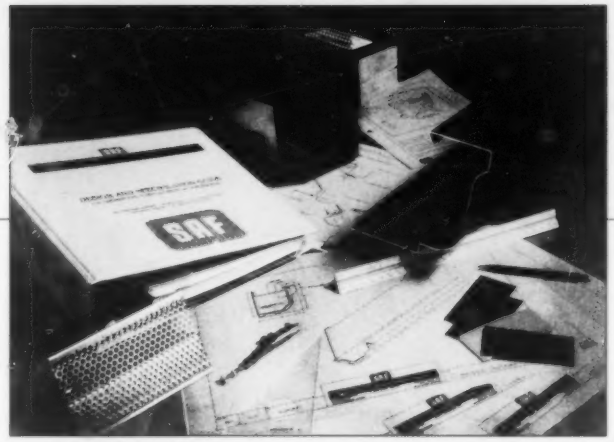

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VOL. 32, NO. 7 THE MAGAZINE FOR THE BUILDING TEAM JULY 1991

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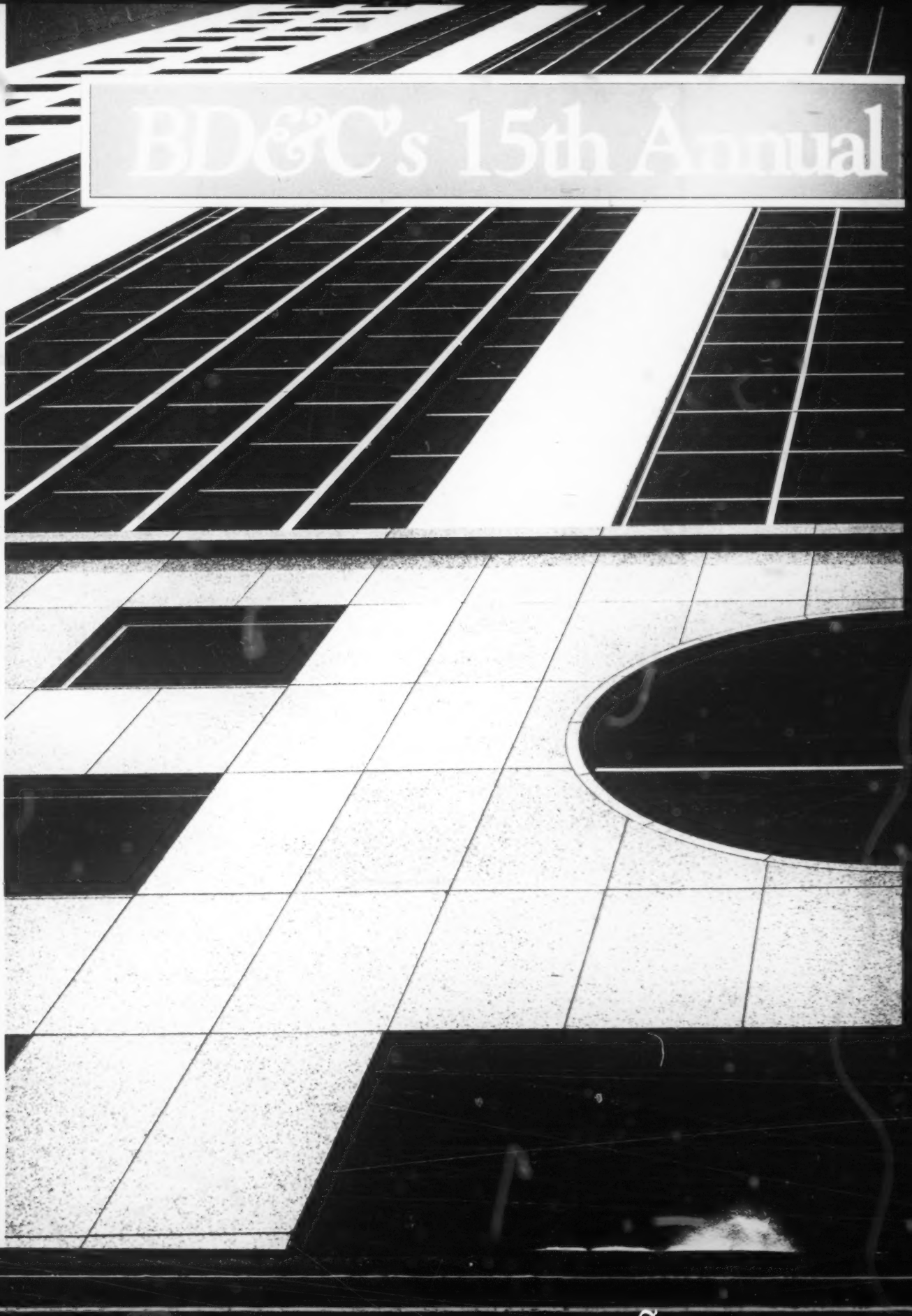

BD&C's 15th Annual

Design/Construct 300

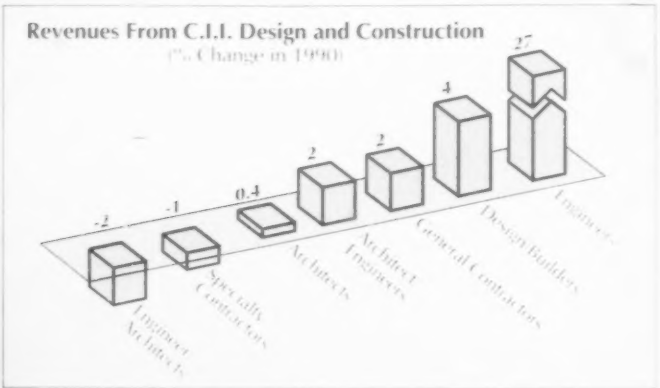
Industry giants pursue public, regional and overseas markets

Firms try to offset declines in commercial projects; they are also responding to their clients' environmental concerns

By Christopher Olsen, Managing Editor

Despite softening markets, the nation's top design and construction firms generally prospered in the late 1980s. However, the looming recession and declining construction, particularly in the commercial market, contributed to stagnant growth for many of these firms in 1990, according to the results of this year's Design/Construct 300 survey.

The survey reports on the commercial, industrial and institutional (C.I.I.) buildings work in the United States by a total of 300 firms in eight categories: Architects (50 members), Architect/Engineers (60), Engineer/Architects (50), Engineers (40), Design/Builders (20), General Contractors (50), Construction Managers (10) and Specialty Contractors (20). The volume of work reported by the firms in each category is based on bricks and mortar rather than on contract awards: that is, the firms are asked to report either the value of construction actually put in place last year or the value of billings from design and planning. (See the description of the survey's methodology on the last page of this article.)



For most groups responding to this year's survey, *1990 was — at best — a year of marginal growth in their volume of commercial, industrial and institutional work. The Engineers were an exception: the top three firms increased their volume by $250 million, driving this group to a 27 percent overall increase.*

"Developer-initiated projects have simply disappeared," said one responaent.

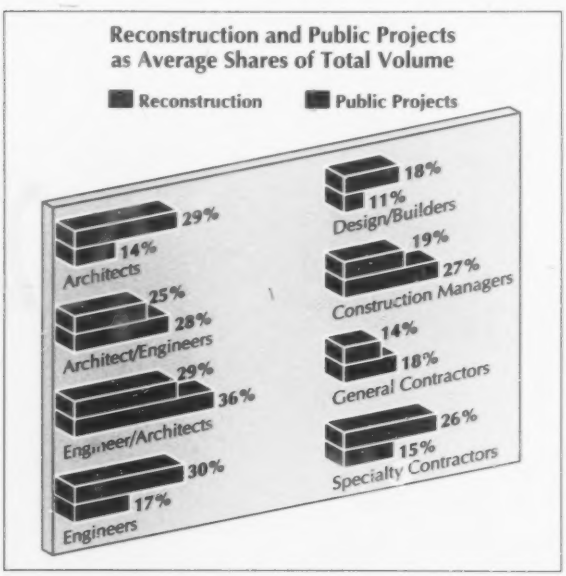
Although results from the different categories varied, most of them showed marginal changes from 1989: the Architect/Engineers and General Contractors recorded a collective 2 percent increase in 1990; the Design/Builders registered a 4 percent increase and the Architects a minuscule 0.4 percent increase. The Specialty Contractors and the Engineer/Architects reported declines of 1 and 2 percent, respectively.

To put these figures in context, however, it should be noted that the Department of Commerce's 1990 inflation index for nonresidential construction (which is smaller than the inflation factor applied to the Consumer Price Index) was 2.1 percent. Thus inflation effectively cancelled the apparent gains in some categories of the survey. Still, the top firms generally stayed ahead of national C.I.I. commercial construction spending, which fell 5.9 percent in current dollars during 1990, according to Cahners Economics.

There were some silver linings to be found in the prevailing cloudy conditions. Many firms that snared work in the institutional and public sectors were able to compensate for the general decline in the commercial building markets (see accompanying article). Activity in some regions of the country — most notably the West Coast, which benefited from Pacific Rim trade — was better than in others — most notably the Northeast. In addition, environmental and energy concerns bolstered the activity of some firms.

Diversification helps performance of the largest firms

In previous years the Design/Construct 300 survey has revealed a disparity between the performance of firms ranked in the top half and those ranked in the bottom half of the various categories. The same result was apparent this year, as the largest firms tended to turn in a better performance. Tapping their greater resources, the largest firms are better able to broaden their range of services and to pursue opportunities in new or unaccustomed markets.



Among the various groups in the survey, *reconstruction ranged from 14 to 30 percent of total volume during 1990, while public projects ranged from 11 to 36 percent.*

In the Architects category, for example, a handful of the larger firms — including Gensler, NBBJ, Wimberly Allison Tong & Goo and Stubbins Associates — reported gains that outran the collective average. Similarly, declines were more likely to be found among the firms holding positions in the bottom half of the Architects category. Of 17 firms returning from last year's survey, 11 showed decreases, which ranged from 2.8 to 33 percent and averaged 14 percent.

In the Engineers category, the top three firms — United Engineers & Constructors, Fluor Daniel and Simons-Eastern Consultants — together reported a $250 million gain in their C.I.I. work, propelling this category to a 27 percent overall increase for 1990. Two of these megafirms also reported substantial increases in the size of their staffs. The remaining 37 firms in the Engineers category had a collective 13 percent increase in C.I.I. billings over the firms who held the same positions in last year's survey.

Many of the Engineers reported that environmental engineering was an area of rapidly rising activity. Much of this work involves hazardous waste, water treatment and civil projects; only a comparatively small portion involves C.I.I. building projects. Nevertheless, the environmental concerns of building clients have encouraged some firms to expand their environmental capabilities. During the past year, Oklahoma City-based architect/engineer HTB added an environmental engineering department to the firm. In addition to its work on a variety of civil and municipal projects, the new department is also kept busy with environmental site assessments, which have become a routine requirement for many prospective lenders and buyers.

Broad concerns among clients for the environment —both inside and outside of buildings — have resulted in some new demands for consulting on environmental and energy issues. "I wouldn't say it's a stampede, but we are finding that certain clients are interested in healthy buildings and the environment," says Bruce Lea, director of marketing for architect/engineer Burt Hill Kosar Rittelmann Associates (BHKR) in Philadelphia. As an example of such a client, Lea cites Compaq Computer Corp., which is concerned about energy conservation in a new facility. Lea believes that Compaq is representative of a small but growing number of firms interested in energy conservation as a means not just to reduce costs but also to preserve the environment. And he finds that more clients are asking about the possible effects of mechanical design and equipment, construction materials and finishes on interior air quality. In order to address these concerns, BHKR is trying to integrate energy and environmental analysis into the mainstream design process so that they are not standalone, ivory-tower functions. "It gives us a competitive differential," Lea adds.

Industrial clients are also expressing more interest in environmental and energy issues with regard to their industrial processes and facilities. " 'Waste minimization' has become an important topic that our clients want to discuss," says Bruce Dell, director of marketing for Lockwood Greene Engineers. Recent events in the Persian Gulf have also served as a reminder of the volatility of energy supplies and energy costs.

Battling uphill from the commercial slump

The widespread slump in the commercial market was clearly evident in the results of this year's survey. The Specialty Contractors, for example, reported that commercial projects accounted for only 37 percent of their total volume in 1990, down from 47 percent in 1989. Among the Archi-

Designers, builders set their sights on institutional work

Several of this year's top 300 design and construction firms have increased their institutional work to help offset the serious downturn in commercial activity.

Average shares of institutional work increased last year in six of the eight categories — and by more than 20 percent in the case of the Engineers, Architect/Engineers and Construction Managers. Meanwhile, commercial activity declined or remained the same in six categories. However, the full impact of the shift may not be evident for a year or more, as some firms have only recently begun to place more emphasis on institutional buildings.

Firms attributed their declining commercial activity to three related factors: overbuilt office markets, tight credit policies and the economic recession, which has dealt an especially hard blow to white collar industries such as financial services and consulting. Many design and construction firms are redirecting their efforts toward educational facilities, hospitals, prisons, government offices and other institutional building types.

The trend reflects the relative strength demonstrated by the institutional market during 1990. While the total value of commercial construction put in place declined by 5.9 percent last year, institutional spending rose by 12.4 percent during the same period, according to the U.S. Department of Commerce. Total spending on public nonresidential projects (schools, prisons, government buildings) was particularly marked, increasing by 15.5 percent last year. Privately funded institutional construction (churches, hospitals, airline terminals) increased by a more modest 5.5 percent.

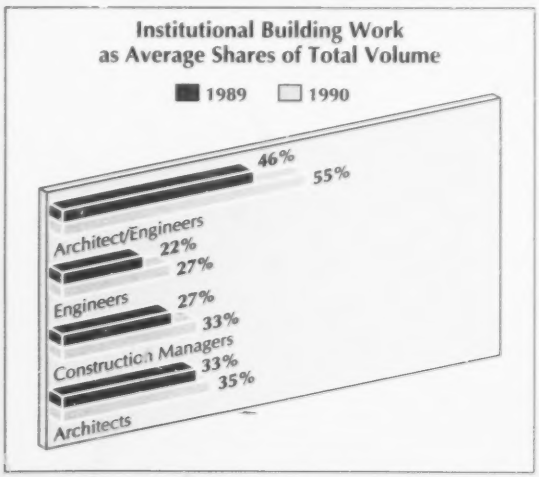
Institutional spending is expected to increase through 1992, although not at the rate achieved in 1990, according to Cahners Economics. Cahners estimates that such activity will increase by 6 percent in current dollars this year, and by 8.8 percent in 1992.

Increased prison spending

Due to inmate overcrowding and the government's crackdown on drugs, prison construction should remain especially strong. In a recent survey by *Corrections Compendium*, an industry journal, 49 states reported plans to spend a collective $6.8 billion on prison construction during 1991 to 1992 — an increase of almost 15 percent over last year. Increased interdiction efforts should also stimulate construction of prosecution and administrative facilities in certain states. With respect to federal facilities, the Federal Bureau of Prisons expects to spend $458 million on construction in 1992.

Educational construction by state and local governments is also expected to increase in 1992, albeit at a more modest rate than in past years, according to estimates by the Fails Management Institute (FMI), a construction industry consultant. Such spending has nearly doubled since 1985; next year, FMI predicts it will increase in current dollars by 5 percent. Reconstruction and asbestos abatement programs are expected to account for a large share of the activity. According to FMI, the largest increases in spending will involve primary and secondary schools.

Athough health care is one of the economy's few job-creating industries still operating at full throttle, construction opportunities in that market segment are somewhat mixed. On the one hand, hospitals and clinics are under pressure to stabilize rising health care costs, which could slow construction. On the other, health care providers compete on the basis of their services, meaning that many may find it necessary to modernize or expand their facilties to accommodate new technologies and treatments. As a result, the health care market should show positive growth in reconstruction, according to FMI. □



***The Architect/Engineers, Engineers and Construction** Managers showed substantial increases in their average shares of institutional building work. The average share of institutional building work performed by Architects increased more modestly. The average share of commercial work practiced declined or remained the same in six of the eight categories during 1990.*

***Construction spending for educational, health care and** miscellaneous public facilities (including prisons, government and office buildings) increased sharply in 1990. Spending for religious and miscellaneous public facilities (including arenas and recreational buildings) declined. Overall institutional spending is expected to increase through 1992, although at more modest rates than in 1990.*

Environmental consulting provided a competitive edge for some design firms

tects, whose work has traditionally centered on the commercial market, firms that relied most heavily on commercial projects tended to show more frequent declines. Of the 20 firms in the entire category who experienced decreases in 1990, 17 reported that commercial work had accounted for 65 percent or more of their total volume. As one respondent put it, "Developer-initiated projects have simply disappeared."

Shifting away from commercial work and into institutional work was common across all the categories in the survey. One of the most dramatic instances was Los Angeles-based architect/engineer Albert C. Martin & Associates, which reported that public projects grew from 10 percent to 90 percent of its total volume over an 18-month period, while commercial work fell correspondingly from 90 percent to 10 percent. Architect/engineer Einhorn Yaffee Prescott noted its recent entry into the school districts of Albany, N.Y., and Washington, D.C. This firm also continues its emphasis on facilities for higher education, and plans to pursue more health care projects.

Firms posting healthy volumes in the General Contractors category tended to be involved in major public projects, such as convention centers, criminal justice facilities and airports. Several firms in the Construction Managers category also noted that large public projects had driven their volumes upward. Research and development facilities were also a strong market, according to Alfred Potter, vice president of corporate marketing for Gilbane Building Co. Potter believes that these projects are often good targets for construction management because of their complexity and their phasing requirements. Gilbane's current projects include a 1.5 million-sq.-ft. pharmaceuticals R&D facility and a $300 million pharmaceuticals lab complex. Pharmaceuticals as well as food and beverage were two very strong industrial markets that were cited frequently by survey respondents.

In terms of regional markets, the Pacific Northwest was attractive to many firms in this year's survey, and several have sought to establish themselves in the Seattle area. General contractor McCarthy purchased an interest in Seattle-based contractor SDL Corp., while Hensel Phelps Construction returned to the Northwest with projects that include the state of Washington's $56 million Natural Resources Building in Olympia and a $15 million vehicle maintenance facility in Seattle for the U.S. Postal Service. Bennett-Ringrose-Wolsfeld-Jarvis, a Minneapolis-based engineer/architect, opened a new office in Seattle during the past year.

While much has been said about the possibilities of work overseas for U.S. firms, this market seems to remain the purview of a select but growing few. Among the Architects, Kohn Pedersen Fox and Swanke Hayden Connell saw their total revenues rise due largely to overseas work, even while their U.S. work declined. Architect/engineer Leo A. Daly opened an office in Taipei during the past year, while RTKL opened an office in Tokyo. The Jones Group, ranked fifth among the General Contractors, has teamed up with Mitsui Construction Co. to pursue work in Japan. San Diego-based Hope Consulting Group reported that it had begun to market its services in the Middle East and Europe.

Although Eastern Europe remains a very large question mark, the economic unification of Western Europe in 1992 is providing incentive for U.S. firms to link up with European partners. Rose, Beaton + Rose, an engineer/architect in White Plains, N.Y., has joined an alliance with the D.Y. Davies European Economic Interest Group. This London-based design firm has been forging links with firms throughout Europe as well as in the United States in order to prepare for opportunities in the new economic community. According to Diane Cramer, director of development for Rose, Beaton + Rose, the firm will soon pursue European projects that can utilize its expertise in data and telecommunications facilities. □

How the Design/Construct 300 survey is conducted

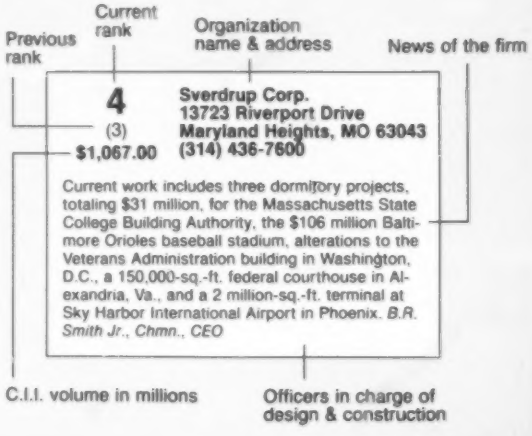
BD&C's Design/Construct 300 consists of the firms that designed and/or constructed the largest volumes of commercial, institutional and industrial (C.I.I.) buildings in the United States during 1990. These 300 firms are divided into eight categories: Architects (50 members), Architect/Engineers (60), Engineer/Architects (50), Engineers (40), Design/Builders (20), Construction Managers (10), General Contractors (50) and Specialty Contractors (20).

Design firms are ranked on the basis of billings for design and planning performed by their own employees during 1990 or their most recent fiscal year. Contracting firms and design/builders are ranked on the dollar value of the construction which they put in place, and for which they were contractually responsible, during 1990. Construction managers are ranked on the dollar value of the construction that they managed during 1990. In the case of building projects lasting longer than one year, the firms were asked to report only that portion completed during the 12-month period. Firms may appear in more than one category when the volume of their work in more than one discipline was great enough to qualify them.

Please note that any revenues unrelated to C.I.I. buildings in the U.S. have been excluded from the figures used for ranking purposes in this survey. Thus every effort has been made to subtract revenues derived from roads, dams, bridges, utility plants, water and waste treatment plants, refineries and single-family housing. Pass-through billings representing work by outside consultants have also been excluded, as have revenues from projects located outside the U.S.

To compile the data presented in the survey, *BD&C* mails a questionnaire each year to approximately 1,500 firms. In cases where *BD&C* was unable to obtain a response to the questionnaire, C.I.I. revenues may have been estimated. Any such estimates are noted in the individual report given for each firm in the survey.

The sample below highlights the information provided in each firm's report.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Current work includes three dormitory projects, totaling $31 million, for the Massachusetts State College Building Authority, the $106 million Baltimore Orioles baseball stadium, alterations to the Veterans Administration building in Washington, D.C., a 150,000-sq.-ft. federal courthouse in Alexandria, Va., and a 2 million-sq.-ft. terminal at Sky Harbor International Airport in Phoenix. B.R. Smith Jr., Chmn., CEO
C.I.I. volume in millions
Officers in charge of design & construction

ARCHITECTS

ARCHITECTS' BILLINGS BEGIN TO LEVEL OFF

C.I.I. billings rose by a modest 0.4 percent in 1990, reflecting a downturn in commercial markets

1 (1) **$88.00**

Gensler & Associates Architects
550 Kearny St.
San Francisco, CA 94108
(415) 433-3700

Gensler is performing less architectural work for developers and placing more emphasis on international interior architecture. Its total revenues, including overseas work, amounted to $78.1 million for calendar 1990. Firm emphasizes design, space programming, facilities management and renovation for commercial office buildings, retail projects and airports. *M. Arthur Gensler Jr., Pres., CEO*

2 (3) **$38.24**

NBBJ
55 Nationwide Blvd.
Columbus, OH 43215
(614) 224-7145

With a staff of nearly 500 located in nine U.S. offices, NBBJ continues to emphasize its regional approach to architecture. Firm has begun to emphasize life care and educational design, while maintaining its position in health care, high-tech and commercial markets. Twenty percent of its work was government-related last year and 15 percent involved reconstruction. *Friedrich K.M. Bohm, Managing Ptnr.*

3 (2) **$35.48**

Kohn Pedersen Fox Associates
111 W. 57th St.
New York, NY 10019
(212) 977-6500

KPF has opened an office in London for European work. Firm's revenues totaled $49.3 million, 17 percent of which was derived from projects outside the U.S. More than three-fourths of its work involved commercial buildings last year. Firm emphasizes design of office buildings and hotels as well as educational and television facilities. *A.E. Kohn, Pres.; Sheldon Fox, William Pedersen, Ptnrs.*

4 (5) **$27.66**

The Hillier Group
500 Alexander Park
CN-23
Princeton, NJ 08543-0023
(609) 452-8888

Hillier has reorganized so that its principals can become more directly involved in projects. Firm continues to emphasize its design of conference centers, laboratories, business schools, corporate offices and dormitories. One-fourth of its work involves interiors and 70 percent is owner-occupied. Recent projects include the Howard Hughes Medical Institute, a 200,000-sq.-ft. facility in Washington, D.C. *J. Robert Hillier, Chmn., CEO*

5 (7) **$25.00**

The Callison Partnership Ltd.
1420 Fifth Ave.
Suite 2400
Seattle, WA 98101
(206) 623-4646

Callison added 41 new staff members last year and expanded into the international market. Its total revenues amounted to $30.5 million for the fiscal year ending September 1990. Commercial projects accounted for the bulk of firm's activity. Forty-five percent of its work involved reconstruction and 30 percent involved interiors. *Gerry Gerron, David Olson, Managing Prins.*

6 (—) **$24.50**

Voinovich Companies
2450 Prospect Ave.
Cleveland, OH 44115
(216) 621-9200

Voinovich's staff of 291 includes 85 registered architects. Sixty-five percent of its work was institutional, 30 percent commercial and 5 percent industrial for calendar 1990. Firm specializes in jails and prisons, apartments, hotels and health care facilities. Recent projects include a $150 million prison for Los Angeles County and a $41 million municipal center in Cleveland. *Paul V. Voinovich, Pres., CEO.*

7 (4) **$20.00**

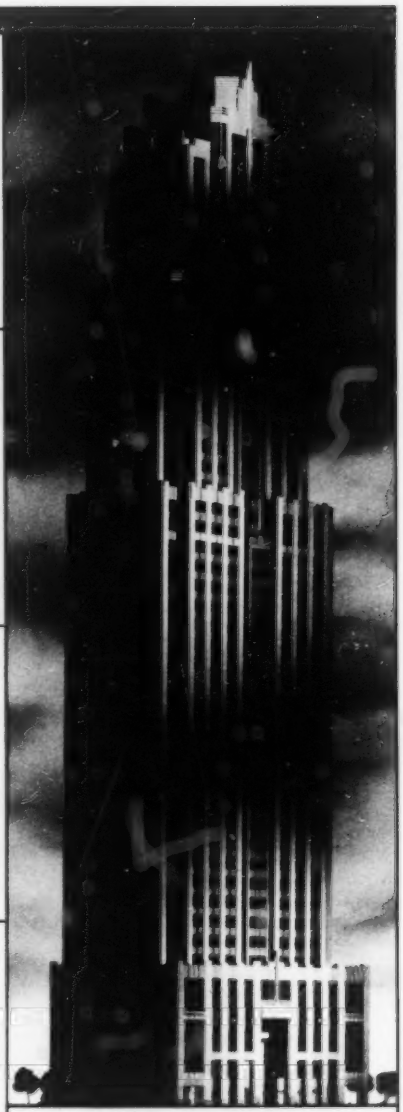
Swanke Hayden Connell Architects
4 Columbus Circle
New York, NY 10019
(212) 977-9696

SHC's total revenues amounted to $36 million, 25 percent of which was derived from projects outside the U.S. Firm is expanding its marketing efforts to include public-sector work. It also continues to emphasize reconstruction and, more particularly, the updating of older commercial facilities. Firm has offices in Chicago, Miami, Washington, D.C., and London. *Richard S. Hayden, Managing Prin.*

8 (8) **$19.30**

Thompson, Ventulett, Stainback & Associates
1200 N. Omni International
Atlanta, GA 30335
(404) 688-5831

Firm is known for its design of corporate, office and mixed-use developments, retail projects, hotels, convention centers and arenas. Its staff of 163 includes 81 registered architects. Commercial work accounted for 67 percent of its activities for calendar 1990 and institutional work made up the balance. Fifteen percent of its work was government-related. *W.P. Thompson Jr., Pres.*



Designed by Swanke Hayden Connell Architects, Americas Tower is a 48-story office building under construction in New York City.

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ARCHITECTS

9 (13) **$19.00**

Kaplan/McLaughlin/Diaz
222 Vallejo St.
San Francisco, CA 94111
(415) 398-5191

Billings estimated by *BD&C*. KMD is re-emphasizing health care and government-related work as a result of slowdown in commercial activity. Firm is also emphasizing asset and facilities management as a defined service. Last year, 35 percent of work was government-related and 75 percent involved owner-occupied facilities. Fifteen percent of firm's work is overseas. *Herbert McLaughlin, Chmn.; Roy Latka, Pres.*

12 (10) **$16.00**

The Nadel Partnership
1990 S. Bundy, 4th Floor
Los Angeles, CA 90025
(213) 826-2100

Nadel also has offices in Sacramento and Costa Mesa, Calif. Morimoto & Associates, an interior design subsidiary, is located in Los Angeles. Firm is known for its design of commercial facilities including office buildings and hotels. Its staff of 175 includes 55 registered architects. *Herbert Nadel, Pres.*

10 (18) **$17.63**

Wimberly, Allison Tong & Goo
2222 Kalakaua Ave.
Honolulu, HI 96815
(808) 922-1253

WATG added 81 new employees last year, including 20 registered architects. Its total staff currently numbers 316. Firm also opened an office in London. Nearly one-third of its work, excluded from the dollar figure above, involved projects in Europe and Asia. Firm continues to specialize in the design of hotels, resorts and leisure-oriented facilities. *Donald Goo, Pres., CEO*

13 (9) **$14.00**

Stone Marraccini Patterson
1 Market Plaza, #400
Spear Street Tower
San Francisco, CA 94105
(415) 227-0100

SMP recently opened an office in Santa Monica, Calif. Firm continues to specialize in the design of corporate, academic, research and health care facilities. Its major market segments — health care and academic facilities — remain strong, according to the firm. Fifteen percent of work last year involved reconstruction. *Wilbur H. Tusler, Pres.*

The 28-story Eleven Hundred Peachtree Street Building in Atlanta is among Smallwood, Reynolds, Stewart, Stewart & Associates' recent office projects. Photo: Gabriel Benzur, Atlanta

11 (16) **$16.27**

The Stubbins Assoc. Inc.
1033 Massachusetts Ave.
Cambridge, MA 02138
(617) 491-6450

Although tight credit policies have affected its developer client base, Stubbins has seen substantial increases in prison and laboratory work. Institutional work accounted for 23 percent of its billings last year. Nearly 75 percent of work involved owner-occupied facilities. Recent projects include Bank One Center, a 48-story office tower in Indianapolis. *Hugh Stubbins, Chmn.; Richard Green, Pres.*

14 (12) **$13.10**

The Architects Collaborative Inc. (TAC)
46 Brattle St.
Cambridge, MA 02138
(617) 868-4200

TAC reported $23 million in revenues last year, 16 percent of which was derived from projects outside the U.S. Firm's Kuwait practice was halted by the Iraqi invasion last August. Commercial and institutional buildings accounted for 65 percent and 35 percent of its work, respectively. Firm continues to emphasize mid- to large-scale work throughout the world. *Perry King Neubauer, Pres.*

15 (19) **$13.00**

Payette Associates Inc.
40 Isabella St.
Boston, MA 02116-5296
(617) 423-0070

PAI continues to see tremendous growth in the biotechnology field. Its client base includes universities, medical institutions and corporations. Institutional facilities accounted for 80 percent of its work last year, while industrial facilities made up the balance. Recent work includes the University of Miami's (Fla.) 118,000-sq.-ft. Sylvester Cancer Clinic, an out-patient cancer center. *Thomas M. Payette, Pres.*

Stubbins Associates designed the Suffolk County Jail in Boston. Monacelli Associates was associate architect. Photo: Jacoby Photography

16 (15) **$13.00**

Smallwood, Reynolds Stewart, Stewart & Assoc.
1 Piedmont Center
Suite 303
Atlanta, GA 30305
(404) 233-5453

SRSSA has an interior design subsidiary with offices in Atlanta and Tampa, Fla. Corporate build-to-suit projects accounted for more than one-third of its work last year. In addition to such facilities, firm continues to emphasize geographic diversification. Staff of 121 includes 41 registered architects. *Phillip L. Smallwood, Pres.*

17 (33) **$12.88**

Ehrlich-Rominger Architects
4800 El Camino Real
Los Altos, CA 94022
(415) 949-1300

Firm is emphasizing geographic diversification with the introduction of branch offices. It is also placing new marketing emphasis on health care and housing for the elderly. Industrial buildings accounted for 80 percent of its work last year. The firm is receiving substantial work from corporations that are upgrading production facilities to accommodate new technologies. *Joseph Ehrlich, CEO; Robert Cavigli, Pres.*

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18 (20) $12.24

HMC Group
500 East E Street
Ontario, CA 91764
(714) 983-9623

HMC recently opened an office in San Diego and acquired an architectural firm in Los Angeles. Its staff of 180 includes 41 registered architects. All but 4 percent of its work was institutional last year. Health care and educational facilities remain firm specialties. Recent projects include a $134 million hospital in Baldwin Park, Calif. *James D. Chase, Pres.; Walter L. Siegl, Exec. VP*

The smaller firms in the Architects category were more likely to record flat or declining billings than the firms in the top 25 positions.

19 (—) $12.00

Davis Brody & Assoc.
315 Hudson St.
New York, NY 10013
(212) 633-4700

Firm recently merged with Bond Ryder and Associates. DBA is best-known for its design of academic buildings and accompanying research facilities. Institutional buildings accounted for 70 percent of its work last year, while commercial projects made up the balance. Firm's projects are 100 percent owner-occupied. Forty percent involve reconstruction. *Lewis Davis, Samuel Brody, Ptnrs.*

20 (11) $11.66

Jung/Brannen Associates Inc.
177 Milk St.
Boston, MA 02109
(617) 482-2299

J/B continues to expand its services in the high-technology and lodging industries. Renovation work is another strong market niche. Firm remains known for a wide array of building types, including offices, mixed-use facilities, hotels, housing and retail. Interiors accounted for 18 percent of its work last year and reconstruction accounted for 30 percent. *Yu Sing Jung, Pres.; Robert Brannen, Chmn.*

21 (30) $11.40

Zimmer Gunsul Frasca Partnership
320 S.W. Oak, Suite 500
Portland, OR 97204
(503) 224-3860

ZGFP has offices in Seattle and Newport Beach, Calif. Firm is known for a broad range of building types and places particular emphasis on corporate and speculative offices, university, health care, government and high-tech industrial projects. Forty percent of its work last year involved owner-occupied facilities and 30 percent was government-related. *Robert G. Packard, Managing Ptnr.*

22 (—) $11.00

Keeva J. Kekst Architects Inc.
1468 W. 9th St., Ste. 600
Cleveland, OH 44113
(216) 781-9144

Firm specializes in commercial design, with an emphasis on malls, community retail centers, major department stores and mixed-use projects. Some 35 percent of its work last year involved reconstruction. Recent projects include Capital Town Center, a $150 million shopping mall in Austin, Texas. Firm's staff of 96 includes 32 registered architects. *Keeva J. Kekst, Pres.*

23 (40) $11.00

Rochlin Baran & Balbona Inc.
10980 Wilshire Blvd.
Los Angeles, CA 90024
(213) 473-3555

Seventy-five percent of firm's work involved reconstruction during last fiscal year. All but 3 percent of its work involved institutional projects. Firm continues to specialize in health care and research laboratories. Current projects include the East Canyon Health Center, a $9 million medical office building in Anaheim, Calif. *Joseph A. Balbona, Prin.*

24 (23) $10.80

The Spector Group
3111 New Hyde Park Road
North Hills, NY 11040
(516) 365-4240

As a result of the recession in the Northeast, Spector has marketed its services in Belgium, Czechoslovakia and Germany and opened offices in Brussels. Last year, 30 percent of its revenues was derived from projects outside the U.S. Firm emphasizes corporate, hotel and retail facilities among other specialties. Last year, reconstruction and interiors each accounted for 20 percent of its work. *Michael H. Spector, Dominic Cardone, Ptnrs.*

25 (14) $10.75

Cooper Carry & Assoc. Inc.
3520 Piedmont Road, N.E.
Suite 200
Atlanta, GA 30305-1595
(404) 237-2000

CC&A is best-known for its design of corporate and investment office buildings, hotels and resorts, retail malls and specialty centers. While maintaining its efforts in proven markets, firm is refocusing its efforts on school dormitories and state government work. Commercial projects accounted for 91 percent of its work last year. *Jerome M. Cooper, Chmn.; Walter T. Carry, Pres., CEO*

26 (—) $10.60

Brennan Beer Gorman/ Architects
515 Madison Ave.
New York, NY 10022
(212) 888-7663

BBG's staff of 115 includes 27 registered architects. Its specialties include lodging/hospitality projects and investment and institutional office buildings. The firm's expertise in renovation and interior design contributed to a 30 percent increase in firm size and revenues last year. During the same period, all but 5 percent of its work involved commercial buildings. *Henry Brennan, David Beer, Peter Gorman, Ptnrs.*

27 (32) $10.00

BSW Group Inc.
1400 S. Boston
Suite 300
Tulsa, OK 74119-3600
(918) 582-8771

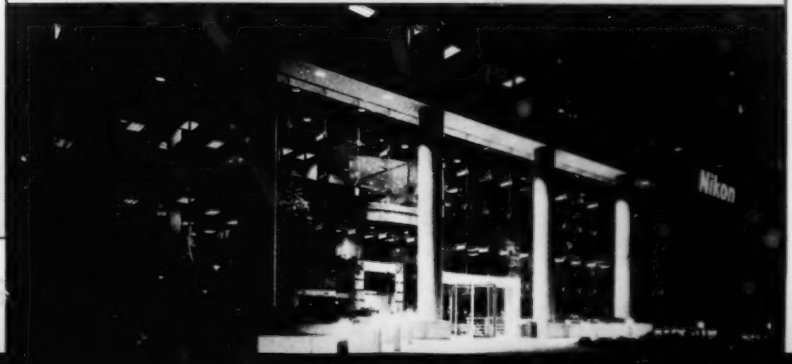
BSW's revenues totaled more than $15 million for calendar 1990. Ninety-eight percent of work involved commercial buildings. Firm remains best-known for its work in retail stores, multifamily housing, chain hotels and shopping centers. It provides construction documents for clients with on-going building programs. Recent projects include several Pier 1 Imports stores across the U.S. *Harry P. Lay, Pres.*

28 (—) $10.00

Hayes Large Architects
400 Century Building
130 7th St.
Pittsburgh, PA 15222
(814) 946-0451

Firm was formerly known as Hayes Large Suckling Fruth & Wedge. It focuses on educational classroom/conference centers, offices and advanced technology centers for corporate, educational and health care clients. Firm has offices Harrisburg and Altoona, Pa. Last year, it experienced large growth across all client groups and offices. *J. Richard Fruth, Robert Wedge, Ptnrs.*

Located in Melville, N.Y., Nikon Inc.'s 132,000-sq.-ft. headquarters was designed by the Spector Group. Photo: Zbigniew Orlewicz



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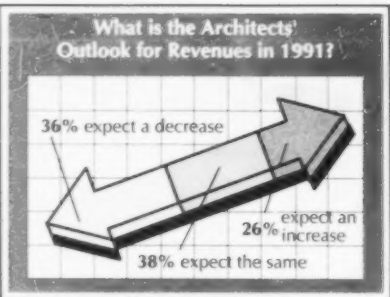
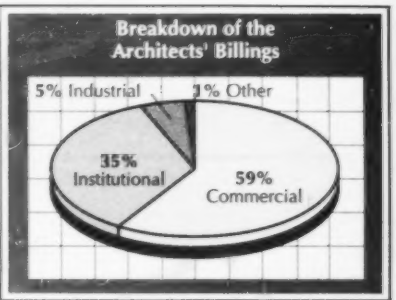
ARCHITECTS

29 (27) **$10.00**

The Luckman Partnership
9220 Sunset Blvd.
Los Angeles, CA 90069
(213) 274-7755

Luckman continues to remain strong in education and renovation markets. Last year, reconstruction accounted for 30 percent of its work, while institutional projects accounted for 70 percent. Firm is also known for its design of office, sports and entertainment facilities. *James Luckman, Exec. Ptnr.; Fred Yerou, Managing Ptnr.*





30 (25) **$9.90**

Gruen Associates
6330 San Vicente Blvd.
Los Angeles, CA 90048
(213) 937-4270

Gruen also has an office in Phoenix. Its current emphasis is on commercial, educational and institutional buildings and on serving Pacific Rim countries. Firm is best-known for its mixed-use centers, office buildings, hotels, regional shopping centers, mart buildings and convention and civic centers. Staff of 95 includes 18 registered architects. *Ki Suh Park, Managing Ptnr.*

33 (26) **$9.70**

Lohan Associates
225 N. Michigan Ave.
Suite 800
Chicago, IL 60601
(312) 938-4455

Lohan opened an office in Berlin this year. It is also pursuing Japanese business opportunities. Firm emphasizes its design of corporate headquarters, museums, cultural centers, educational facilities and R&D projects. More than 90 percent of its projects were owner-occupied last year. Current projects include the 35-story Harris Bank Operations Center in Chicago. *Dirk Lohan, Pres.*

36 (31) **$9.24**

Loebl Schlossman & Hackl
130 E. Randolph
Suite 3400
Chicago, IL 60601
(312) 565-1800

Firm specializes in architecture and interior design for office, health care, retail and residential projects. Last year, more than 75 percent of its work involved owner-occupied facilities. Twenty percent involved reconstruction. Recent projects include 633 St. Clair Place, a 28-story investment office building in Chicago. *Donald J. Hackl, Pres.*

31 (38) **$9.90**

Shepley Bulfinch Richardson and Abbott
40 Broad St.
Boston, MA 02109
(617) 423-1700

Firm remains best-known for its design of college, university, health care and corporate facilities. Its projects were 100 percent owner-occupied last year. Ninety-five percent of its work involved institutional facilities. Recent projects include the $160 million Dartmouth Hitchcock Medical Center in Lebanon, N.H. *George R. Mathey, Pres.*

34 (—) **$9.50**

Musil Perkowitz Ruth Inc.
911 Studebaker Road
Long Beach, CA 90815
(213) 594-9333

Firm is best-known for retail architecture. Commercial buildings accounted for 95 percent of its work last year, while reconstruction accounted for 15 percent. Recent projects include Westland Fair, a 430,000-sq.-ft. retail center in Las Vegas. Firm estimates that its revenues will decline by 15 percent in 1991. *M. Lawrence Musil, Pres.*

37 (29) **$9.20**

TRO/The Ritchie Organization
80 Bridge St.
Newton, MA 02158
(617) 969-9400

Institutional work continues to account for the lion's share of TRO's billings. The firm specializes in health care facilities and has recently broadened its practice to include medical research and retirement facilities. Forty percent of its work last year involved reconstruction. Firm has an interior design division in Newton, Mass. *Wendell R. Morgan Jr., Pres.*

32 (17) **$9.75**

LPA Inc.
1 Venture
Irvine, CA 92718
(714) 753-1001

LPA has other California-based offices in Los Angeles, San Diego and Sacramento. Three quarters of its work was commercial, while institutional and industrial work accounted for the balance. Firm continues to specialize in commercial offices, corporate headquarters, retail, mixed-use and hospitality facilities. Recent projects include the renovation of the 615,000-sq.-ft. Disneyland Hotel in Anaheim, Calif. *Leason F. Pomeroy III, Pres.*

35 (—) **$9.48**

Corgan Architects Inc.
508 Elm St., Suite 500
Dallas, TX 75202
(214) 748-2000

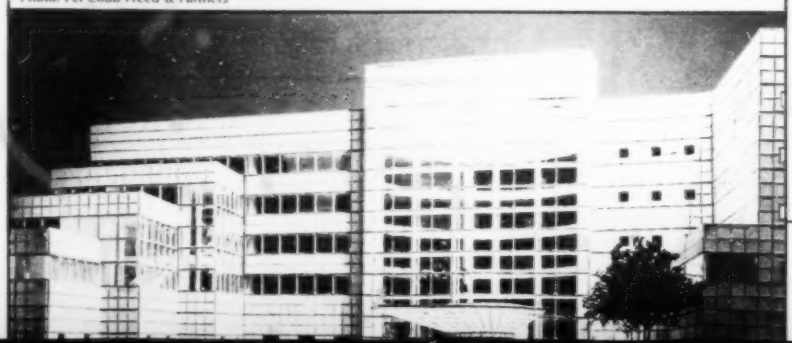
Corgan's staff of 115 includes 39 registered architects. The firm specializes in airport terminals, hangars and other aviation-related facilities, as well as computer facilities, schools and universities. Institutional work accounted for 90 percent of its billings last year. Reconstruction accounted for 20 percent. Recent projects include a $21 million administrative building for American Airlines in Tulsa, Okla. *C. Jack Corgan, Prin.*

38 (37) **$8.94**

Johnson Fain & Pereira Associates
6100 Wilshire Blvd.
Los Angeles, CA 90048
(213) 933-8341

JF&P's staff of 75 includes 40 registered architects. It continues to specialize in office, mixed-use and resort/hotel projects as well as master planning and urban design. Firm expects its revenues to decline by 10 percent in 1991. Recent projects include 1999 Avenue of the Stars, a 38-story office building in Los Angeles. *R. Scott Johnson, Design. Ptnr.; William H. Fain Jr., Managing Ptnr.*

Associated architects Ritchie Organization, Pei Cobb Freed & Partners and Garikes Wilson Atkinson designed the Kirklin Clinic in Birmingham, Ala.
Photo: Pei Cobb Freed & Partners



39 (—) **$8.90**

Morris Architects
3355 W. Alabama
Houston, TX
(713) 622-1180

Morris also has offices in Long Beach, Calif., and Orlando, Fla. Its staff of 113 includes 58 registered architects. Firm specializes in a wide array of building types including offices, hotels, criminal justice facilities, theaters, retail and health care. Reconstruction accounted for 30 percent of its work last year. *John H. Wiegman, Pres., CEO*

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ARCHITECTS

40 (39) **$8.50**
Walker Group/CNI Inc.
320 W. 13th St.
New York, NY 10014
(212) 206-0444

Walker also has offices in Los Angeles and London. Firm continues to specialize in architecture, retail and financial-related interiors. Its design work for bank branches continues to strengthen. Commercial projects accounted for 100 percent of its billings last year. Fifty percent of its work involved reconstruction. *Kenneth H. Walker, Chmn., CEC; Mark Pucci, Pres.*

41 (—) **$8.40**
Griswold, Heckel & Kelly Assoc. Inc.
55 W. Wacker Drive
Chicago, IL 60601
(312) 263-6605

Firm also has offices in New York City, Boston and Deerfield, Ill. It specializes in interior architecture, corporate relocation and renovation, master planning and facilities management. Sixty percent of firm's work involved reconstruction last year and 40 percent involved owner-occupied facilities. It expects revenues to remain the same in 1991. *Curt Zeiser, Pres.*

42 (28) **$8.20**
SGPA Architecture and Planning
1565 Hotel Circle South
San Diego, CA 92108
(619) 297-0131

SGPA specializes in mixed-use projects, commercial buildings, hotels, urban and environmental design and land planning. Its staff of 83 includes 33 registered architects. Recent projects include a pair of mixed-use centers in San Diego and a retail/mixed-use project in Vallejo, Calif. *Arthur D. Allard, CEO; Lawrence V. Haswell, CFO*

43 (21) **$7.80**
Beyer Blinder Belle
41 E. 11th St.
New York, NY 10003
(212) 777-7800

BBB specializes in urban and waterfront design, planning, historic preservation and adaptive reuse. More than half of its work involved interiors last year. Recent projects include the $150 million restoration of Ellis Island in New York Harbor. Its staff of 90 includes 32 registered architects. *John H. Beyer, Richard Blinder, John Belle, Ptnrs.*

44 (41) **$7.77**
Nix Mann & Associates
1382 Peachtree St., N.E.
Atlanta, GA 30309
(404) 873-2552

NMA specializes in the planning, programming and design of medical facilities. Firm noted it is seeing more competition in health care from firms that are new to the field. More than 20 percent of its work last year was government-related. Recent projects include a phased addition and renovation program for the 517-bed University Medical Center in Jacksonville, Fla. *Henry A. Mann, Chmn.; I. Lewis Nix, Pres.*

45 (22) **$7.64**
Langdon Wilson Architecture Planning
1055 Wilshire Blvd.
Los Angeles, CA 90017
(213) 250-1186

With several major projects delayed due to the economic climate, LWAP is increasing its emphasis on health care and educational design. Firm expects revenues to rise by 10 percent in 1991. Institutional work accounted for 25 percent of its billings in 1990. Recent projects include the Pacific Sunrise Towers and Trade Center, a $109 million mixed-use center in Los Angeles. *Ernest C. Wilson, Managing Ptnr.*

***Langdon Wilson served as** executive architect for 777 Tower, a 52-story commercial office building in Los Angeles.*
Photo: Mark Lohman, Los Angeles

46 (—) **$7.61**
KKE Architects Inc.
300 First Ave., N., Suite 500
Minneapolis, MN 55401
(612) 339-4200

KKE's staff of 102 includes 33 registered architects. Firm's specialties include retail, government, educational, elderly care and multifamily housing facilities. Commercial projects accounted for 55 percent of its billings last year, while institutional projects accounted for 45 percent. Firm expects revenues to rise by 20 percent in 1991. *Ronald Krank, Pres.*

47 (35) **$7.45**
The Martin Organization
242 N. 22nd St.
Philadelphia, PA 19103
(215) 665-1080

TMO also has offices in Princeton, N.J., Fairfax, Va., and Boca Raton, Fla. Firm is best-known for senior living communities, high-rise residential facilities and mixed-use projects, although it is diversifying into retail and recreational markets. Recent projects include senior living communities for the Marriott Corp. in Boca Raton and Palm Harbor, Fla. *Richard E. Martin, Charles D. Harker, Victor L. Barr, Ptnrs.*

48 (49) **$7.10**
Vickrey/Ovresat/Awsumb Associates
224 S. Michigan Ave.
Chicago, IL 60604
(312) 554-1400

VOA also has an office in Orlando, Fla. Sixty percent of its work last year was government-related and 55 percent involved reconstruction. Firm is also known for corporate and interior design. Recent projects include the Navy Pier reconstruction program in Chicago, which the firm is undertaking in conjunction with Benjamin Thompson & Associates. *Wilmont Vickrey, Chmn.; Michael A.Toolis, Pres., Managing Prin.*

49 (50) **$6.60**
Grad Associates
One Gateway Center
Newark, NJ 07102-5388
(201) 621-1700

Firm was formerly known as the Grad Partnership. Its staff of 75 includes 29 registered architects. Firm specializes in a wide array of building types, including corporate and investment offices, correctional, airline and government facilities. Twenty-five percent of its work involved reconstruction last year. *Harry B. Mahler, Chmn.; Dennis A. Posen, Pres.*

50 (—) **$6.31**
The Falick/Klein Partnership Inc.
5847 San Felipe, Ste. 1900
Houston, TX 77057-3093
(713) 782-9000

FKP formerly ranked in the A/E category. Firm also has offices in Oakland and Irvine, Calif. It specializes in health care design, interior architecture and medical equipment planning. Last year, institutional work accounted for 100 percent of its billings. Recent projects include the $50 million Irvine Medical Center, an acute care hospital and medical office building. *James Falick, Chmn., CEO; John S. Crane, Pres., COO*

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ARCHITECT/ ENGINEERS

COMMERCIAL BILLINGS FALL BUT INSTITUTIONAL WORK CLIMBS

Institutional projects represented 55 percent of total billings for the Architect/Engineers — an increase of 9 percent

1 (2) **$77.20**

Hellmuth, Obata & Kassabaum Inc.
1831 Chestnut St.
St. Louis, MO 63103
(314) 421-2900

In addition to its St. Louis headquarters, HOK has 12 other offices located in the U.S. and abroad. The firm acquired PHH/Neville Lewis in New York and PHH Environments in Los Angeles, increasing the firm's interiors staff by approximately 50 people. Staff totals 1,100. HOK opened a Tokyo office in January. *Gyo Obata, Chmn., Pres.*

2 (3) **$68.65**

Ellerbe Becket Inc.
One Appletree Square
Minneapolis, MN 55420
(612) 853-2000

Activity included 70 percent institutional, 25 percent commercial and 5 percent industrial. Reconstruction accounted for 20 percent of the firm's billings. Staff of 1,024 includes 262 registered architects and 51 registered mechanical engineers. Ellerbe Becket Construction Services Inc. and Landmark Contract Management Inc. are the firm's subsidiaries. *John C. Gaunt, Pres.*

3 (5) **$63.00**

RTKL Associates Inc.
400 E. Pratt St.
Baltimore, MD 21202
(301) 528-8600

Besides its Baltimore headquarters, RTKL has six other offices. Two are located overseas — in London and Tokyo. Of its total revenues for the past year, 12 percent was derived from projects outside the U.S. Activity was 75 percent commercial and 25 percent institutional. Among its recent projects is a mixed-use facility in Takamatsu, Japan. *Harold L. Adams, Chmn.*

4 (4) **$62.03**

HKS Inc.
111 Plaza of the Americas
Dallas, TX 75201
(214) 969-5599

HKS continues to specialize in health care facilities, office buildings, multiuse structures and hotels. Other offices are located in Tampa and Los Angeles. Government projects accounted for 12 percent of HKS's revenues. Current projects include the 450,000-sq.-ft. Hyatt at Pelican Hill in Newport Beach, Calif., and the Kaiser W. Anaheim Medical Office Building in West Anaheim, Calif. *Ronald L. Skaggs, Chmn., CEO; C. Joe Buskuhl, Pres.*

5 (6) **$44.13**

Leo A. Daly
8600 Indian Hills Drive
Omaha, NE 68114
(402) 391-8111

Firm has international subsidiaries in Hong Kong, Singapore, Tokyo and Madrid. In the past year, Leo A. Daly also opened a new office in Taipei, Taiwan. Activity included 56 percent institutional, followed by 32 percent commercial. Staff totals 675 and includes 190 registered architects, 43 registered structural engineers and 47 registered mechanical engineers. *Leo A. Daly, Chmn., Pres.*

6 (9) **$43.66**

The Smith Group
150 W. Jefferson Ave.
Detroit, MI 48226
(313) 983-3600

Among its affiliates are SH&G/Southwest Inc., Johnson, Johnson & Roy Inc. and Moyer Associates Inc. Company's specialties include R&D facilities, laboratories, health care facilities and airports. Government projects accounted for 40 percent of firm's work as did owner-occupied facilities. Activity was 30 percent commercial, with the remaining 70 percent divided evenly between institutional and industrial. *Philip J. Meathe, COO*

7 (12) **$41.30**

The Kling-Lindquist Partnership
2301 Chestnut St.
Philadelphia, PA 19103
(215) 569-2900

Research and development facilities comprise the majority of TKLP's work. Activity was 69 percent industrial, 21 percent commercial and 10 percent institutional. TKLP increased its staff by 68, adding 14 architects and 19 mechanical engineers. Firm recently completed the 53-story Bell Atlantic Tower in Philadelphia and is working on a facility for the National Institutes of Health in Bethesda. *Fred Lindquist, Chmn., CEO*

8 (11) **$38.09**

Howard Needles Tammen & Bergendoff
P.O. Box 419299
Kansas City, MO 64141
(816) 333-4800

Current projects include several convention centers such as the $30 million Meydenbauer Center in Bellevue, Wash., and the 670,000-sq.-ft. expansion of Bartle Hall Convention Center in Kansas City, Mo. Activity was 50 percent commercial, 40 percent institutional and 10 percent industrial. Additional offices are located in Los Angeles, Phoenix, Seattle, Boston and Milwaukee. *Cary Goodman, Richard Farnan, Ptnrs.*

9 (7) **$34.91**

HDR Inc.
8404 Indian Hills Drive
Omaha, NE 68114
(402) 399-1000

Above figure excludes activity that involved utility plants, highway and civil projects, and municipal water and waste treatment plants. Parent firm is Bouygues S.A., Paris. HDR's specialties include health care, justice facilities and corporate work. Projects include the $305 million Queens Hospital in Queens, N.Y., and the Shriners Hospitals burn treatment and orthopedic unit in Sacramento, Calif. *Francis Jelensperger, Exec. VP*

10 (10) **$33.40**

Hansen Lind Meyer Inc.
Plaza Center One
Iowa City, IA 52244
(319) 354-4700

HLM has opened an office in Washington, D.C., in the last year. The firm plans to pursue commissions for courthouse facilities, academic teaching hospitals and university research facilities. Other offices are located in Chicago, Denver, New York City and Orlando, Fla. Activity was 94 percent institutional. One of the firm's major projects is the Richard Staff Ross Research Building at Johns Hopkins School of Medicine, Baltimore. *James E. Zajac, Chmn.*

This $350 million pharmaceutical R&D facility in Research Triangle Park, N.C., for Glaxo Inc. is a Kling-Lindquist Partnership project. Photo: Eric Chung

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ARCHITECT/ENGINEERS

11 (8) $32.74
Perkins & Will
123 N. Wacker Drive
Chicago, IL 60606
(312) 977-1100

Activity was divided evenly between commercial and institutional buildings. Perkins & Will continues to focus on education, health care, corporate facilities and aviation buildings. Major projects include the international terminal at Chicago's O'Hare International Airport and the $2.8 million Sears Home Office in Hoffman Estates, Ill. *Robert L. Barnes, Chmn., CEO*

12 (13) $31.36
Cannon
2710 Whitehaven Road
Grand Island, NY 14072
(716) 773-6800

Cannon's staff of 289 specializes in health care, corporate, commercial, educational, R&D and mixed-use projects. Activity included 65 percent institutional, 26 percent commercial and 7 percent industrial. Reconstruction comprised 55 percent of billings. Of firm's total revenues during 1990, 5.1 percent were derived from international projects. Other offices are located in Boston, St. Louis, Washington, D.C., New York City and Buffalo, N.Y. *John D. Cannon, Pres., CEO*

13 (17) $23.25
Flad & Associates
5200 Mineral Point Road
Madison, WI 53705
(608) 238-2661

Flad reports that its institutional projects have been affected by the economic downturn, although some segments of the institutional market — health care and R&D projects — have remained steady. An 840,000-sq.-ft. headquarters for American Family Insurance in Madison, and a corporate research laboratory for Boehringer Ingelheim Pharmaceutical Inc. in Ridgefield, Conn., are two current projects. *J.E. Blassick, J.W. Miller, R.H. Postweiler, Prins.*

14 (15) $22.00
Albert Kahn Associates Inc.
7430 Second Ave.
Detroit, MI 48202
(313) 871-8500

The firm continues to provide much of its design services to Fortune 500 clients. AKA also offers planning, architectural and engineering services to universities and health care companies. Current projects include a $150 million automotive assembly plant in Detroit and a $15 million medical office building and ambulatory care center in Novi, Mich. *E.E. Parks, Pres., CEO*

15 (14) $20.90
CUH2A
600 Alexander Road
CN-5240
Princeton, NJ 08543
(609) 452-1212

Staff totals 248 and includes 33 registered architects, six registered structural engineers, six registered mechanical engineers and six registered electrical engineers. Firm designs corporate office, research and computer facilities and research facilities for colleges and universities. CUH2A recently completed BMW of North America Inc., a corporate headquarters in Woodcliff Lake, N.J. *Kurt M. Anderson, Pres.*

16 (22) $20.70
DLR Group Inc.
400 Essex Court
Regency Park
Omaha, NE 68114
(402) 393-4100

Fiscal year ended Aug. 31, 1990. Firm has several subsidiaries, including Dana Larson Roubal and Associates, John Graham Associates and Deseret Architects and Engineers. Another subsidiary, Lescher and Mahoney, opened a new office in Sacramento. Activity was 68 percent institutional, 20 percent industrial and 12 percent commercial. *Dale Hallock, Bryce Pearsall, Managing Prins.*

17 (18) $19.00
Haines, Lundberg, Waehler (HLW)
115 Fifth Ave.
New York, NY 10003
(212) 353-4600

HLW continues to specialize in R&D and high-tech facility design for corporate and academic clients. Staff of 200 includes 46 registered architects. Activity was 60 percent industrial, with the remaining activity divided evenly between commercial and institutional. Five percent of revenues were derived from projects outside the U.S. *T.S. Hammer, L. Kiil, Managing Ptnrs; M.D. Raab, R.A. Djerejian, Sr. Managing Ptnrs.*

18 (37) $17.18
3D/International
1900 West Loop South
Suite 600
Houston, TX 77027
(713) 871-7000

Firm's specialties include commercial and public office buildings, as well as hospitals, schools and prisons. Among the firm's 11 subsidiaries are 3D/Environmental Inc., 3D/I-Hong Kong and asbestos consultant McClelland Management Services Inc. 3D/I added 74 employees during the past year. Activity included 74 percent institutional and 22 percent commercial. *J. Victor Neuhaus, Chmn.; Charles B. Thomsen, Pres., CEO*

19 (23) $16.98
Anderson DeBartolo Pan Inc.
2480 N. Arcadia Ave.
Tucson, AZ 85712
(602) 795-4500

Firm's specialties include health care, R&D facilities, libraries and public buildings. Other offices are located in Phoenix and San Francisco. Institutional buildings accounted for 68 percent of activity, while 31 percent was industrial. Projects include a solar energy facility in Golden, Colo., and a molecular biology research laboratory at Arizona State University, Tempe. *Richard Anderson, Jack DeBartolo, Solomon Pan, Ptnrs.*

20 (27) $16.91
Hammel Green and Abrahamson Inc.
1201 Harmon Place
Minneapolis, MN 55403
(612) 332-3944

Another office is located in Milwaukee and the firm recently opened a Denver branch. Activity was 66 percent institutional, 19 percent commercial and 15 percent industrial. Staff totals 230. The $600 million Mall of America in Bloomington, Minn., is expected to be completed in 1992. The firm is also working on the $8.7 million Ted Mann Concert Hall in Minneapolis. *Kurt Rogness, CEO; Roger Santelman, COO*

A recent Hammel Green and Abrahamson project is the Siebens Building for the Mayo Clinic in Rochester, Minn.
Photo: Koyama Photography

21 (25) $16.72
Odell Associates
129 W. Trade St.
Charlotte, NC 28202
(704) 377-5941

Other offices are located in Greenville, S.C., Richmond, Va., and Tampa, Fla. Activity included 60 percent institutional, 20 percent commercial and 15 percent industrial. Among Odell's specialties are corporate headquarters, mixed-use developments, sports and convention centers and educational facilities. Government projects accounted for 30 percent of firm's work and reconstruction accounted for 6 percent. *Benjamin T. Rook, CEO*

22 (28) $16.66
Ewing Cole Cherry Parsky
100 North 6th St.
Philadelphia, PA 19106-1590
(215) 923-2020

Firm reports that it saw an increase in both staff and billings and attributes this growth to a rise in commissions for health care facilities. Staff of 204 includes 52 registered architects, eight structural engineers, six mechanical engineers and three electrical engineers. More than 75 percent of activity involved institutional buildings. Firm completed the Fox Chase Cancer Center in Philadelphia. *Robert M. Parsky, Chmn., CEO*

23 (31) $15.92
Harley Ellington Pearce Yee Associates
26913 Northwestern Hwy.
Southfield, MI 48086
(313) 262-1500

Firm's marketing emphasis includes health care facilities, industrial facilities, site planning services and interior design. Burke, Bales & Mills/HEPY in Orlando, Commercial Design Architects/HEPY in Lynwood, Wash., and Fields & Devereaux/HEPY in Los Angeles are among HEPY's subsidiaries. Government projects accounted for one-half of firm's work while reconstruction projects accounted for 35 percent. *Dennis King, Pres.*

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24 (16) **$15.86**

Sasaki Associates Inc.
64 Pleasant St.
Watertown, MA 02172
(617) 926-3300

Above figure excludes 35 percent of activity that involved single-family residential and park and waterfront design. The remaining activity was 45 percent commercial and 20 percent institutional. Suter + Suter in Basel, Switzerland, is the firm's subsidiary. Sasaki also has several offices around the country, including those in Los Angeles and Washington, D.C. A current project is the 31-acre Alyeska Ski Resort in Girdwood, Alaska. *James Sukeforth, Pres.*

25 (24) **$15.60**

Spillis Candela & Partners Inc.
800 Douglas Entrance
Coral Gables, FL 33134
(305) 444-4691

Office buildings, institutional structures and judicial facilities are this firm's specialties. Its two other Florida offices are in Orlando and West Palm Beach. Activity included 52 percent commercial and 47 percent institutional. Government structures accounted for 45 percent of the firm's work. The 660,000-sq.-ft. AAA Headquarters in Heathrow, Fla., was completed in the last year. *Peter J. Spillis, Chmn.*

26 (26) **$15.50**

Burt Hill Kosar Rittelmann Associates
400 Morgan Center
Butler, PA 16001
(412) 285-4761

To compensate for a declining demand in the commercial development sector, BHKR has begun to focus its marketing efforts in institutional sectors, specifically the design of health care and research facilities. Other offices are located in Pittsburgh, Philadelphia, Washington, D.C., and Fort Myers, Fla. Firm recently completed a $70 million renovation of the John Wanamaker Building in Philadelphia. *John Kosar, Pres.*

27 (32) **$14.35**

Everett I. Brown Co.
950 N. Meridian
Indianapolis, IN 46204
(317) 237-7000

Firm reports that it has not been severely affected by the industry downturn. In the past year, it added 11 more architects, two more structural engineers and one more electrical engineer. Marketing emphasis continues to be high-tech projects, industrial structures, office buildings and educational facilities. Activity was 60 percent institutional, 25 percent industrial and 15 percent commercial. *Joseph S. Brown, Managing Ptnr.*

28 (30) **$14.31**

Albert C. Martin & Associates
811 W. 7th St.
Los Angeles, CA 90017
(213) 683-1900

During the past 18 months, Martin has seen the ratio of its private and public-sector work reverse itself. In the past, 90 percent of activity was private and 10 percent public. It is now 90 percent public and 10 percent private. Current projects include the Kelhin Tennis Club & Sports Center in Tokyo and the Figueroa at Wilshire Tower, a 52-story Los Angeles office structure. *Christopher C. Martin, Managing Ptnr.; David C. Martin, Des. Ptnr.*

29 (34) **$13.93**

Page Southerland Page
P.O. Box 2004
Austin, TX 78768
(512) 472-6721

Recent projects include the $50 million Austin Convention Center in Austin, Texas, and the 157-bed Reynolds Community Hospital in Fort Sill, Okla. Firm's marketing emphasis includes health care, industrial and educational facilities. Other offices are located in Dallas and Houston and the staff totals 178. Government projects accounted for 23 percent of firm's billings during the past year. *Jay Willmann, James Wright, Acree Carlisle, Matthew Kreisle III, Prins.*

30 (33) **$13.60**

Vitetta Group
The Wallace Building
642 N. Broad St.
Philadelphia, PA 19130
(215) 235-3500

Firm recently merged with Houston-based Phillips & Brown to strengthen its presence in the Southwest. Another office is located in Camden, N.J. Activity was 94 percent institutional and 6 percent commercial. Firm's specialties include educational, justice and health care facilities, as well as historic preservation and renovation projects. Staff was increased by 34 people in the past year. *Francis G. Vitetta, Pres.*

31 (29) **$13.33**

Gresham, Smith and Partners
3310 West End Ave.
Nashville, TN 37203
(616) 385-3310

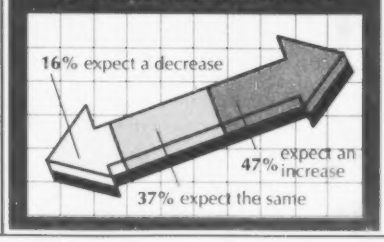
Above figure excludes activity that involved municipal water and waste treatment plants and highway and civil projects. Activity included 69 percent institutional, 7 percent industrial and 6 percent commercial. Other offices are in Birmingham, Ala., and Jacksonville, Fla. Teaching, pediatric and outpatient health care facilities are the firm's specialties. *Gary F. Hunt, Managing Prin.*

32 (38) **$12.18**

Heery Architects & Engineers Inc.
999 Peachtree St., N.E.
Atlanta, GA 30367
(404) 881-9880

Other offices are in San Francisco and London. Specialties for this 151-person firm include commercial buildings, institutional structures, industrial buildings and sports complexes. Current projects include the $35 million Baptist Medical Center, a six-story children's services building in Jacksonville, Fla., and the Museum of Atlanta History for the Atlanta Historical Society. *James J. Moynihan, CEO; Joseph M. Harris, Pres.*

What is the Architect/Engineers' Outlook for Revenues in 1991?



33 (35) **$12.00**

Setter, Leach & Lindstrom Inc.
1100 Peavey Bldg.
2nd Ave. at 8th St.
Minneapolis, MN 55402
(612) 338-8741

Commercial, retail and medical buildings are among this firm's specialties. Activity was 45 percent institutional, 35 percent industrial and 20 percent commercial. Staff of 123 includes 23 architects and 30 engineers. The $135 million Hennepin County Public Safety Facility in Minneapolis is currently in the schematic design phase. *Richard Vasatka, Pres.*

34 (21) **$11.88**

GSGSB
Berens Building
P.O. Box 244
Clarks Summit, PA 18411
(717) 586-1761

GSGSB/Horst, an interior retail design firm in Port Washington, N.Y., is a subsidiary. GSGSB has re-evaluated its marketing program and plans to focus its efforts on short-term regional marketing. Activity includes 47 percent commercial, 23 percent industrial and 20 percent institutional. Other offices are in New York City, Fairfield, N.J., and Research Triangle Park, N.C. *J. Gilboy, R. Stauffer, R.Giombetti, E. Bellante, Ptnrs.*

35 (40) **$11.54**

Einhorn Yaffee Prescott
Broadway at Beaver
Albany, NY 12207
(518) 463-2141

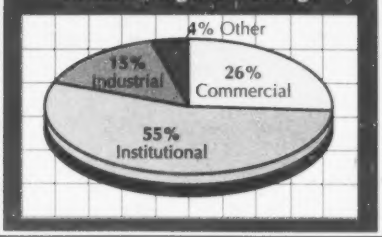
The firm has recently been successful in establishing new clients in the Washington, D.C., and Albany, N.Y., school districts. EYP plans to expand its marketing efforts to include Connecticut and western Massachusetts. During 1990, EYP named six new principals and hired a director to oversee marketing operations in both its Albany and Washington, D.C., offices. *Steven Einhorn, Pres.*

36 (36) **$10.78**

The Ballinger Co.
Independent Square West
Philadelphia, PA 19103
(215) 592-0900

R&D facilities, health care buildings and offices are this firm's specialties. Current projects include a 300,000-sq.-ft. Hershey Foods Headquarters in Hershey, Pa., an R&D and office facility for Hinmont Technology in Elkton, Md., and an R&D and manufacturing building for Ford Electronics in Lansdale, Pa. Activity was 35 percent commercial, 34 percent institutional and 31 percent industrial. *W.R. Gustafson, Pres.*

Breakdown of the Architect/Engineers' Billings



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ARCHITECT/ENGINEERS

37 (43) $10.77
HTB Inc.
900 N. Stiles Ave.
Oklahoma City, OK 73104
(405) 239-4700

Above figure excludes 32 percent of activity that involved highway and civil projects and water and waste treatment plants. Firm added an environmental engineering department and expanded three of its existing departments — facilities management, interior design and space planning. Other offices are located in Tulsa, Okla., Washington D.C., San Jose, Calif., and Arlington, Va. *Rex M. Ball, Chmn., CEO; P.G. Wilson Jr., Exec. VP*

A/E firms are reworking their marketing strategies to compete more effectively.

38 (58) $10.40
TRA
215 Columbia
Seattle, WA 98104
(206) 682-1133

Firm increased its staff by four registered architects and three engineers during 1990. Firm is known for airports, convention centers, science and laboratory facilities and correctional institutions. TRA is designing the $220 million airside concourses for the Denver International Airport and a $30 million terminal expansion for Delta Airlines in Cincinnati. *Alan Moses, Ptnr.*

39 (39) $10.27
Phillips Swager Associates Inc.
3622 N. Knoxville
Peoria, IL 61603
(309) 688-9511

With additional offices in Dallas and Naperville, Ill., this firm is best-known for its design of criminal justice facilities. Government work accounted for 55 percent of PSA's billings during 1990. Activity was 76 percent institutional, 14 percent industrial and 10 percent commercial. Firm is currently working on a 1,600-bed prototype design for a $120 million expansion of Chicago's Cook County Jail. *Donald Z. White, CEO*

40 (47) $10.05
Fred H. Thomas Associates PC
2560 N. Triphammer Road
Ithaca, NY 14850
(607) 257-1300

Firm is known for educational master planning, the planning of school district reorganizations and the design of educational facilities. Institutional buildings comprised all of the firm's activity during 1990. The staff increased by 22 during 1990. Other offices are located in Garden City, N.Y., and Princeton, N.J. *Fred H. Thomas, Pres.*

41 (45) $9.52
KZF Inc.
655 Eden Park Drive
Cincinnati, OH 45202
(513) 621-6211

KZF's specialties include large institutional projects and R&D/manufacturing facilities. During 1990, the firm completed Covington Landing, a floating restaurant and entertainment complex in Covington, Ky., and the 10,500-seat Ervin J. Nutter Center, an athletic and performance arena in Dayton, Ohio. Government projects accounted for 65 percent of firm's billings. *Gregory K. Rhoads, Pres., CEO*

42 (44) $9.46
O'Donnell Wicklund Pigozzi & Peterson
570 Lake Cook Road
Deerfield, IL 60015
(708) 940-9600

Firm acquired Chicago architectural firm John Macsai & Associates in January 1991. Areas of expertise include health care and geriatric facilities, corporate interiors and government facilities. Activity was 75 percent institutional, 20 percent commercial and 5 percent industrial. The psychiatric replacement facility at the Veterans Administration Hospital in Hines, Ill., was completed in 1990. *Leonard A. Peterson, Pres.*

43 (50) $9.45
Boyd/Sobieray Associates Inc.
6819 N. Shadeland Ave.
Indianapolis, IN 46220
(317) 849-7878

During 1990 the firm grew from 90 to 124 employees. The staff includes 28 registered architects. All of the firm's work was institutional and 40 percent of its billings involved reconstruction. The firm is working on several Indiana hospitals. The $84 million Veterans Affairs Medical Center in Indianapolis is expected to be completed in 1994. *Donald B. Altmeyer, Pres.*

44 (59) $9.39
Neptune-Thomas-Davis
1550 W. Colorado Blvd.
Pasadena, CA 91105
(213) 255-1401

Firm also has two other California offices, in San Diego and Corona. Health care, education and institutional facilities are the firm's specialties. During 1990, the firm completed an expansion of the Parsons Engineering Building at Harvey Mudd College in Claremont, Calif., and a $10 million intensive care addition at Hospital of the Good Samaritan in Los Angeles. *Anthony O'Keefe, Pres.*

45 (—) $8.57
Stevens & Wilkinson Inc.
100 Peachtree St., N.W.
Suite 2450
Atlanta, GA 30303
(404) 522-8888

Firm is new to the listing this year and is known for correctional facilities, retail buildings, offices, medical structures and educational buildings. Another office is in Columbia, S.C. Activity included 49 percent commercial and 41 percent institutional. Firm is expected to complete two 808-bed prisons in South Carolina this year, as well as the $15 million Richland Community Library in Columbia. *James F. Kortan, Chmn., CEO*

46 (—) $8.15
Wolfberg/Alvarez & Associates
5960 S.W. 57th St.
Miami, FL 33143
(305) 666-5474

Firm is new to the listing this year. Firm has expertise in corporate, industrial, medical and institutional facilities. Above figure excludes work that involved utility plants and highway and civil projects. Current projects include the Sheraton All-Suites Hotel in Miami Beach, the Jewish Community Center in Palm Beach County and the Westland Promenade Mall in Hialeah, Fla. *Julio E. Alvarez, David A. Wolfberg, Prins.*

47 (42) $7.80
Holabird & Root
300 W. Adams St.
Chicago, IL 60606
(312) 726-5960

Three Chicago projects include a master plan and business school for Loyola University, the 260,000-sq.-ft. IIT-Kent College of Law and a data center for Illinois Bell Telephone. Staff totals 149 and includes 25 registered architects and 12 registered engineers. Government work accounted for 40 percent of the firm's billings and 15 percent of its work involved reconstruction. *Jeff Case, Gerald Horn, Roy Sollisburg, Ptnrs.*

Cincinnati Bell Technical Center *in Erlanger, Ky., is a training center designed by KZF Inc.* Photo: Greg Morioka

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ARCHITECT/ ENGINEERS

Sheretz Franklin Crawford Shaffner Inc. recently completed a 225-inmate regional jail in Winchester, Va. Photo: Mustafa Kanishka

48
(—)
$7.52

Schmidt Garden and Erikson
104 S. Michigan Ave.
Chicago, IL
(312) 332-5070

Firm is new to the listing this year. During 1990, the firm acquired a design/build division that designs and manages construction of controlled environments for the electronic, pharmaceutical and research industries. Subsidiaries include Zack Cleanroom Technologies Inc. and Schmidt, Garden, Erikson Inc., Research and Development Division. Other offices are in Sarasota, Fla., and Dayton, Ohio. *Robert F. Lange, Pres., CEO*

49
(—)
$7.25

The Durrant Group
2701 International Lane
Madison, WI 53704
(719) 633-3003

Firm is new to the listing this year. Several subsidiaries are located in Dubuque, Iowa, and Madison, Wis. Other offices include those in Denver, Colorado Springs, Colo., and Phoenix. Most of the firm's work is institutional, retail and industrial. Technical specialties are in high-voltage electrical distribution, automated building systems and energy performance. *Norman E. Wirkler, Pres.*

50
(41)
$7.10

O'Brien/Atkins Associates
P.O. Box 12037
Research Triangle, NC 27709
(919) 941-9000

Most of the firm's work is institutional and commercial. Government projects accounted for 40 percent of the firm's billings, while reconstruction accounted for 14 percent. Current N.C. projects include the North Carolina Museum of History in Raleigh, and a $37 million detention facility in Durham. Staff of 100 includes 24 registered architects, four interior designers and eight registered engineers. *William L. O'Brien, Chmn., CEO*

51
(54)
$7.10

Sargent Webster Crenshaw & Folley
2112 Erie Blvd. East
Syracuse, NY 13224
(315) 472-3361

Firm serves clients in the northeastern United States. The firm anticipates growing opportunities in the areas of long-term-care nursing facilities and jail and court facilities. A current project is the $6 million renovation of the Cadman Plaza District Court, a federal court house in Brooklyn, N.Y., and an addition at the Ira Davenport Hospital in Bath, N.Y. *Donald J. Skowron, Managing Ptnr.*

52
(49)
$7.03

Ellis/Naeyaert/ Genheimer Associates Inc.
3290 W. Big Beaver Road
Troy, MI 48084
(313) 649-2000

Subsidiary is ENG/Six Associates in Asheville, N.C. Activity includes 45 percent commercial, 30 percent industrial and 20 percent institutional. Staff of 132 includes 18 registered architects and 28 registered engineers. Reconstruction work accounted for 50 percent of 1990's billings, while government projects accounted for 15 percent. *J. Edward Genheimer, Pres., CEO*

53
(52)
$7.00

Lorenz & Williams Inc.
120 W. Third St.
Dayton, OH 45402
(513) 223-6500

Hospitals, offices, academic buildings and justice facilities are among the firm's specialties. Activity included 63 percent institutional and 35 percent commercial. Other offices are located in Cincinnati and Columbus. Current projects include a $64 million convention center in Columbus, Ohio, and an $18 million university medical center in Cincinnati. *A. Notley Alford, Pres., CEO*

54
(56)
$6.95

Fanning/Howey Associates Inc.
540 E. Market
Celina, OH 45822
(419) 586-7771

Part of the firm's marketing focus has been in the area of energy conservation for school districts. The firm is well-known for educational facilities, with institutional buildings comprising 98 percent of activity. Other offices are located in Indianapolis, Michigan City, Ind., West Palm Beach, Fla., and Columbus, Ohio. Staff totals 109 and includes 29 registered architects. *Ronald H. Fanning, Pres.*

55
(—)
$6.90

DES
399 Bradford St.
Redwood City, CA 94063
(415) 364-6453

Firm is new to the listing this year and is known for its R&D and manufacturing facilities for Silicon Valley companies. Its marketing emphasis also includes corporate facilities and institutional buildings. Firm has several other California offices, including those in Fremont and Pleasanton. A manufacturing and office facility for Hitachi Metals Trimedia in Fremont, and the University National Bank in Palo Alto, Calif., are recent projects. *J. Don Mincey, Pres.*

56
(—)
$6.08

Hope Consulting Group
401 W. "A" St.
Suite 500
San Diego, CA
(619) 233-5251

Firm is new to the listing. Among its specialties are health care, hotels and retail and entertainment facilities. Hope recently began offering interior design services and also launched an international marketing effort in Europe and the Middle East. Hope Engineers of Fullerton, Calif., is a subsidiary. Activity includes 55 percent commercial and 35 percent institutional. *Frank L. Hope, Charles B. Hope, Co-Chmn.*

57
(57)
$6.03

Sherertz, Franklin, Crawford, Shaffner Inc.
305 S. Jefferson
Roanoke, VA 24011-2000
(703) 344-7774

Firm continues to specialize in retirement communities, health care facilities and correctional institutions. Firm acquired a six-person firm in Virginia Beach, Va., last September. A major project is a five-phase renovation of the Masonic Home of Pennsylvania, a health care center in Elizabethtown. Another project is the Clarke-Frederick-Winchester Regional Jail in Winchester, Va. *Patrick N. Schaffner, CEO, Pres.*

58
(51)
$6.00

Fletcher-Thompson Inc.
Two World Trade Plaza
Bridgeport, CT 06604
(203) 366-5441

Firm employs a staff of 63 that includes 18 registered architects and six registered structural engineers. Activity was 55 percent institutional, 35 percent industrial and 10 percent commercial. Government work accounted for 40 percent of the firm's billings, while reconstruction accounted for 20 percent. The firm is designing the $80 million North Central Connecticut Correctional Facility in Suffield. *John G. Phelan, Pres.*

59
(60)
$5.59

Quinlivan Pierik & Krause, Architects/Engineers
101 E. Water St.
Syracuse, NY 13202
(315) 472-7806

Specialties include health care facilities, interior design and landscape architecture. Current projects in Syracuse include a county jail and a school of nursing. One-half of firm's billings involved reconstruction, while 30 percent involved government projects. In the past year, QP&K has increased its use of CAD. *Alfred Krause, John Quinlivan, John Stopen, Sergei Yevich, Ptnrs.*

60
(—)
$5.05

JMGR Inc.
80 Monroe Ave.
Memphis, TN 38103
(901) 526-9600

Firm is new to the listing. Medical facilities, computer centers, laboratories and educational facilities are some of JMGR's specialties. Among its recent projects are the expansion of the Roanoke Memorial Hospital in Roanoke, Va., and an outpatient surgery and diagnostic center for Tulane University in New Orleans. Staff totals 72 and includes 25 architects, four mechanical engineers and four electrical engineers. *Walk C. Jones, Chmn.*

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ENGINEER/ ARCHITECTS

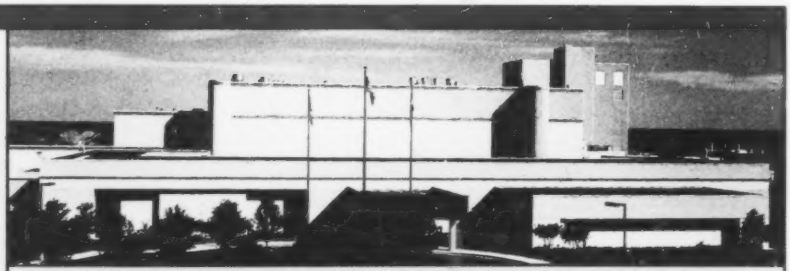
OVERALL BILLINGS DECLINE 2 PERCENT IN 1990

However, pharmaceuticals, food & beverage and the public sector remain strong markets for many Engineer/Architects

1
(1)
$392.46

CRSS Inc.
1177 West Loop South
Houston, TX 77027
(713) 552-2000

Major subsidiaries include CRS Sirrine Engineers (Greenville, S.C.), CRSS Architects (Houston), CRSS Constructors (Houston) and CRSS Civil Engineers (Chicago). Industrial projects accounted for 54 percent of the firm's activity; recent industrial projects include a newsprint plant and a $100 million optical fiber plant. Total staff numbers 3,100. *Bruce W. Wilkinson, Chmn., CEO; Richard L. Daerr, Pres., COO; Steve R. Pierce Sr., VP, CFO*



***This 200,000-sq.-ft. cereal plant** in Covington, Ga., for General Mills is a project of Lockwood Greene Engineers.* Photo: Jonathan Hillyer

2
(2)
$208.24

Sverdrup Corp.
13723 Riverport Drive
Maryland Heights, MO 63043
(314) 436-7600

Industrial projects accounted for 70 percent of the firm's engineering/architectural work. Sverdrup reported a rise in large transportation, environmental and food & beverage projects. During 1991 the firm will complete an office building and an amphitheater in Riverport, a 500-acre mixed-use project in St. Louis County (Mo.), for which Sverdrup is providing development, design, construction and operations services. *Brice R. Smith Jr., Chmn., CEO*

4
(4)
$124.00

Belcan Corp.
10200 Anderson Way
Cincinnati, OH 45242
(513) 891-0972

Belcan's market emphasis is on facilities for the pharmaceutical, food, pulp & paper, and high-tech industries. The staff of this privately held firm numbers 2,800. Industrial buildings accounted for 92 percent of the firm's work. In addition to its Cincinnati headquarters, the firm operates major offices in St. Louis, Cleveland, Indianapolis, Pittsburgh and Modesto, Calif. *Ralph G. Anderson, CEO; J.J. Suarez, Pres.*

6
(7)
$101.25

Day & Zimmermann Inc.
1818 Market St.
Philadelphia, PA 19103
(215) 299-8000

This privately held firm is best-known for biotechnology, pharmaceutical, semiconductor and food-processing facilities. Recently completed projects include manufacturing plants for Clorox and Xerox, and pharmaceutical plants for Eli Lilly and Centocor. In addition to its engineering/architectural services, the firm also provides design/build and construction management services, which are not reflected in the dollar volume reported above. *H.L. Yoh Jr., Chmn.*

3
(3)
$135.04

Lockwood Greene Engineers Inc.
1500 International Drive
Spartanburg, SC 29304
(803) 578-2000

The firm is best-known for serving clients in the food & beverage, pharmaceutical, microelectronics, chemical, manufacturing, aerospace & defense, and printing & publishing industries. It has implemented an extensive quality management program. Staff of 1,877 includes 76 registered architects and 309 engineers. Parent firm of Lockwood Greene is Philipp Holzmann AG. *Donald R. Luger, Pres., Chmn., CEO*

5
(6)
$112.20

Daniel, Mann, Johnson & Mendenhall (DMJM)
3250 Wilshire Blvd.
Los Angeles, CA 90010
(213) 381-3663

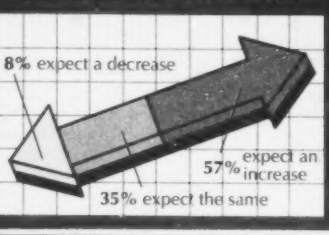
During the past year DMJM became an employee-owned firm whose parent company is AECOM Technology Corp. Projects slated for completion this year include county prisons in Florida and California, and a federal prison in Kentucky. The firm is also working on a regional U.S. mail center in New York and a $500 million modernization of the Pentagon. Staff numbers 1,259. *M. Paul Brott, Pres., COO*

7
(5)
$85.20

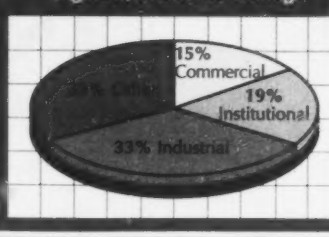
Holmes & Narver Inc.
999 Town & Country Road
Orange, CA 92688
(714) 567-2400

Holmes & Narver is best-known for computer facilities, criminal justice facilities, office and industrial buildings, and food & beverage plants. The firm has recently intensified its marketing emphasis on public works projects. The dollar volume reported above does not include overseas work, which accounted for 14 percent of the firm's total revenues. The parent firm of Holmes & Narver is AECOM Technology Corp. *Richard J. Bouchard, Pres.*

What is the Engineer/Architects' Outlook for Revenues in 1991?



Breakdown of the Engineer/Architects' Billings



8
(10)
$60.50

URS Consultants Inc.
One Penn Plaza, Suite 610
New York, NY 10119
(212) 736-4444

Health care facilities represent a major component of this firm's work. Health care projects currently under way include a new $36 million outpatient facility in New York City, and hospital expansions in Norfolk, Va., and Glendale, Calif. The firm is also working on Gateway Arena in Cleveland, a new basketball arena that is scheduled for completion in 1994. *Irwin L. Rosenstein, Pres.*

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ENGINEER/ARCHITECTS

9 (8) **$45.90**

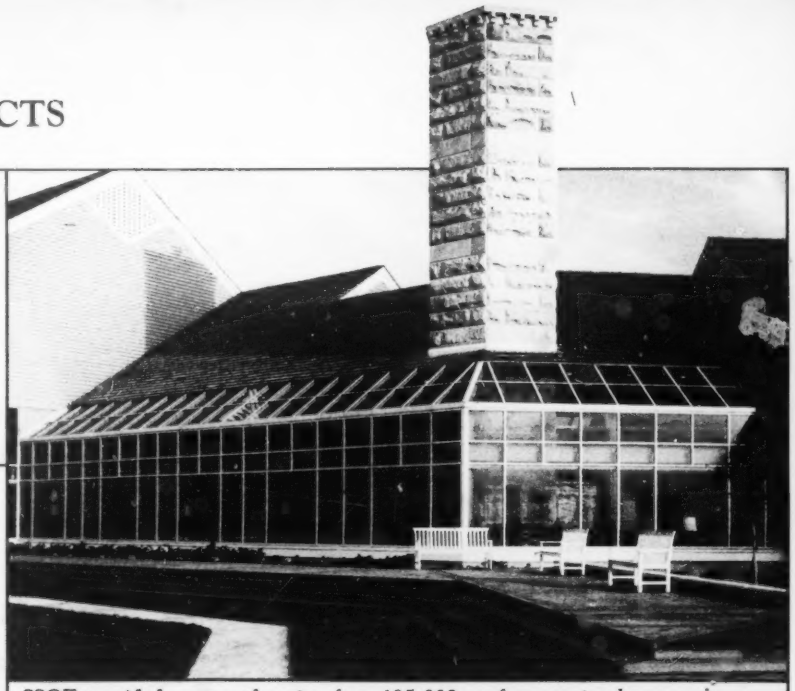
A. Epstein and Sons International Inc.
600 Fulton St.
Chicago, IL 60606
(312) 454-9100

Industrial projects accounted for 45 percent of the firm's work, commercial projects for 25 percent and institutional projects for 15 percent. Projects scheduled for completion this year include a $30 million bus maintenance facility in Chicago, a pharmaceuticals plant in New Jersey and distribution centers in Illinois and Arizona. Staff numbers 600. *Melvin Kupperman, Pres., CEO; Sidney Epstein, Chmn.*

10 (12) **$45.12**

SSOE Inc.
1001 Madison Ave.
Toledo, OH 43624
(419) 255-3830

In addition to its headquarters in Toledo, this privately held firm has major offices in Flint and Troy, Mich., Nashville, and Bellevue, Wash. Staff numbers 736, including 69 registered architects, 50 structural engineers, 61 mechanical engineers and 92 electrical engineers. Projects under way include a surgical center in Toledo and a $140 million truck plant in Renton, Wash., for Kenworth. *Francis L. McAuliffe Jr., CEO, Pres., Chmn.*



***SSOE provided master planning** for a 125,000-sq.-ft. recreational area at the Maumee Bay State Park in Ohio, where a 120-room lodge was recently completed.*
Photo: Robert Benton Photography Studios

11 (11) **$31.87**

Dewberry & Davis
8401 Arlington Blvd.
Fairfax, VA 22031
(703) 849-0100

During 1990, commercial buildings accounted for 20 percent of the firm's billings, institutional buildings for 14 percent and industrial buildings for 5 percent. The dollar volume reported above does not include civil projects and water and waste treatment plants, which together accounted for 45 percent of the firm's billings. Staff numbers 1,235. *Sidney O. Dewberry, Mng. Ptnr.; Barry K. Dewberry, General Ptnr.*

12 (14) **$29.21**

STV Engineers Inc.
11 Robinson St.
Pottstown, PA 19464
(215) 326-4600

This publicly held firm encompasses STV Engineers, STV/Lyon Associates (E/A/P), STV/H.D. Nottingham (E/A/P), STV/Sanders & Thomas (E/A/P) and STV/Seelye Stevenson Value & Knecht (E/P). Major building projects include a $180 million convention center in Atlantic City, and R&D facilities at both the Johnson Space Center in Houston and the Goddard Space Center in Greenbelt, Md. *Richard L. Holland, Chmn., CEO; Michael Haratunian, Pres., COO*

13 (13) **$28.15**

Giffels Associates Inc.
P.O. Box 5025
Southfield, MI 48086-5025
(313) 355-4600

Giffels is best-known for manufacturing and R&D centers. Current and recently completed projects include regional correctional facilities at various locations for the state of Michigan; the Chrysler Technology Center in Auburn Hills, Mich.; and an R&D facility for Amoco in Atlanta. The firm's staff numbers 474. *Daniel J. Bohn Jr., Chmn.*

***The Agricultural Science & Industries Building** at Pennsylvania State University was designed by STV, which also provided construction supervision for the project.*

14 (18) **$26.48**

Lester B. Knight & Associates Inc.
549 W. Randolph St.
Chicago, IL 60606
(312) 346-2100

Mechanical/electrical engineering accounted for 30 percent of the firm's work, architecture for 25 percent and structural engineering for 15 percent. The dollar volume reported above does not include overseas work, which accounted for 52 percent of the firm's total revenues of $64.4 million. Staff numbers 625. *DeForest P. Davis, Pres., CEO; Stephen Mitchell, Donald Hitchcock, Charles Fausel and Erhard Wendling, Exec. VPs*

15 (16) **$25.62**

The Benham Group
9400 N. Broadway
Oklahoma City, OK 73156
(405) 478-5353

The marketing emphasis of this privately held firm is focused on industrial, process and high-tech facilities. The firm has a staff of 462 employees. In addition to its Oklahoma City headquarters, the firm has major offices in Tulsa, St. Louis, Detroit, Dallas, San Antonio, Phoenix and Alexandria, Va. Among projects scheduled for completion this year are a medium-security prison in Hinton, Okla., and a $50 million cereal plant in Nevada. *Donald L. Wickens, Pres.*

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Lev Zetlin Associates provided complete engineering/architectural services for the $8 million, 1,000-car parking structure at the Albany Civic Center, Albany, N.Y.

16 (—) **$24.79**

Rosser Fabrap International
524 W. Peachtree St., N.E.
Atlanta, GA 30308
(404) 876-3800

During the past year Rosser Fabrap merged with Lowe Engineers Inc., an environmental engineering firm. Public-sector projects accounted for 60 percent of the firm's work. Staff numbers 382. Among projects under way are the Georgia Dome in Atlanta, and a hangar and a computer center in Atlanta for Delta Air Lines. In last year's survey this firm was listed in the Architect/Engineers category. *Paul C. Rosser, CEO*

17 (25) **$16.53**

Ghafari Associates Inc.
14147 Farmington Road
Livonia, MI 48154
(313) 421-3900

During the past year Ghafari acquired two firms: Mackenzie Knuth & Klein (Flint, Mich.) and Eberle M. Smith (Detroit). Both operate as semi-autonomous units serving their own specific markets. Ghafari's staff numbers 225. The firm reports a growing interest in turnkey services among its clients. The firm emphasizes plant refurbishment/renovation; reconstruction accounted for 50 percent of its billings. *Yousif B. Ghafari, Pres., CEO*

18 (21) **$16.50**

The Sigel Group
Sabine & Essex Avenues
Narberth, PA 19072
(215) 839-3200

The firm's emphasis is on facilities for the pharmaceuticals and electronics industries. Projects under way include a picture tube plant in Pennsylvania for Sony, a sterile manufacturing facility in North Carolina for Burroughs Wellcome and a process development facility in New Jersey for Sandoz. This privately held firm has a staff numbering 232 employees. *John K. Henderson, Chmn.; G. William Leishear, Pres.*

19 (20) **$14.68**

Mason & Hanger-Silas Mason Co. Inc.
2355 Harrodsburg Road
Lexington, KY 40504
(606) 223-2277

This employee-owned firm is best-known for security facilities, weapons and explosives processing plants, ammunition plants and blast-resistant structures. Projects for the government accounted for 90 percent of the firm's work. *Dwight E. Heffelbower, Pres.*

20 (17) **$13.41**

Burns & McDonnell
4800 E. 63rd St.
P.O. Box 419173
Kansas City, MO 64141
(816) 333-4375

The firm's total billings for design and planning of U.S. projects were $67 million in 1990; the dollar volume reported above represents only the 20 percent involving commercial and industrial buildings. Staff numbers 950. In addition to the Kansas City headquarters, the firm has major offices in Dallas, Miami, Denver and West Palm Beach, Fla. *Newton A. Campbell, Chmn.; Dave G. Ruf Jr., Pres.*

21 (24) **$12.82**

Bennett-Ringrose-Wolsfeld-Jarvis-Gardner Inc. Group
700 Third St. South
Minneapolis, MN 55415
(612) 370-0700

This firm incorporates BRW Inc., which provides urban design, planning, transportation and civil engineering services, and BRW Architects, which provides architectural and master planning services. During the past year the firm opened an office in Seattle. The firm is best-known for educational facilities, light-rail transit facilities and recreational facilities. *Mark G. Swenson, Pres., BRW Architects; Donald Hunt, Pres., BRW Inc.*

22 (15) **$12.44**

Greiner Engineering Inc.
909 E. Las Colinas Blvd.
Suite 1900, LB-44
Irving, TX 75039
(214) 869-1001

The firm reports that educational projects funded by local bond elections have been an active market during the past year. Some 85 percent of the firm's work involves highway and civil projects, which are not reflected in the C.I.I. dollar volume reported above. Greiner has acquired Bissel & Karn Inc., a 300-person firm in California specializing in surface transportation and infrastructure. *Frank T. Callahan, Pres., CEO*

23 (28) **$12.30**

Lev Zetlin Associates
541 Avenue of the Americas
New York, NY 10011
(212) 741-1300

The firm specializes in special structures and renovations. It has recently strengthened its marketing emphasis on state and local agencies and on infrastructure repair/replacement. Reconstruction accounted for 25 percent of the firm's work and public-sector projects for 25 percent. Staff of 155 includes 28 registered structural engineers and 14 registered architects. *Joseph N. Zuliani, Abe Gutman, Sr. VPs*

24 (—) **$12.26**

Reynolds, Smith and Hills Inc.
4651 Salisbury Road
Jacksonville, FL 32256
(904) 296-2000

In June 1990, senior management and employees of the Design Division of Hunter Services Inc. (formerly known as Reynolds, Smith and Hills A-E-P) purchased specific assets of this group and became the new firm — Reynolds, Smith and Hills Inc. Marketing emphasis includes aerospace, aviation, defense, industrial and manufacturing facilities. *Leerie T. Jenkins Jr., Pres., CEO*

25 (45) **$12.08**

Barge, Waggoner, Sumner & Cannon
162 3rd Ave. North
Nashville, TN 37201
(615) 254-1500

In addition to its Nashville headquarters, this employee-owned firm has offices in Knoxville, Memphis, Miamisburg, Ohio, and Dothan and Huntsville, Ala. The firm's emphasis is on industrial buildings, recreational facilities and criminal justice facilities. Projects include federal courthouse renovations at several locations and a criminal justice center in Putnam Co., Tenn. *William H. Cannon, Chmn.; Jack L. Wood, Pres.*

26 (27) **$12.00**

Fru-Con Engineering Inc.
P.O. Box 100
Ballwin, MO 63022-0100
(314) 391-6700

The parent firm of Fru-Con Engineering is Fru-Con Construction Corp. Mechanical/electrical engineering accounted for 31 percent of billings for design and planning, structural engineering for 20 percent and architecture for 8 percent. Marketing emphasis is on industrial/manufacturing facilities for process, as well as for food & beverage and other consumer-product manufacturers. *Stephen L. Drawe, Pres.*

27 (34) **$11.96**

Piedmont Olsen Inc.
P.O. Box 1717
Greenville, SC 29602
(803) 242-1717

The firm's marketing emphasis is on industrial buildings and environmental engineering. Staff numbers 237. Branch offices are located in Raleigh and Greenville, N.C. Current projects include plant expansions for Du Pont, Rhone Poulenc, Glaxo and Baxter Healthcare. *J.V. Boyette Jr., Pres.*

28 (30) **$10.89**

Marathon Inc.
P.O. Box 335
Menasha, WI 54952
(414) 725-3923

Marathon is best-known for facilities for the pulp & paper, chemical, and food & beverage industries. Staff of 204 includes 20 registered mechanical engineers, 14 structural engineers and 14 architects. A branch office is located in Augusta, Ga. During the past year the firm merged with the Jaakko Poyry Group Companies, an international design firm with headquarters in Helsinki, Finland. *Harold R. Miller, Pres., CEO*

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ENGINEER/ARCHITECTS

29 (36) $10.80
EI Associates
115 Evergreen Place
East Orange, NJ 07108
(201) 672-5100

This privately held firm is best-known for schools, labs and industrial facilities for the chemical, pharmaceutical, and food & beverage industries. During the past year the firm acquired Van Wert, Snyder & Associates in Buffalo, N.Y. Projects under way include three new schools in E. Orange, N.J., and a fourth in Hatboro, Pa. *Peter A. Cipriano, Pres.*

Public projects accounted for 36 percent of the Engineer/Architects' work in 1990.

36 (29) $8.68
Post, Buckley, Schuh & Jernigan Inc.
8600 N.W. 36th St.
Miami, FL 33166
(305) 592-7275

During the past year the firm has focused more of its marketing emphasis on public-sector projects. Work for federal, state and local governments accounted for 75 percent of the firm's activity. C.I.I. building projects accounted for 14 percent of the firm's work; the remaining non-C.I.I. work included civil and highway projects, solid waste and water facilities. *William W. Randolph, Chmn.; H. Michael Dye, Pres.*

30 (31) $10.26
A.M. Kinney Inc.
2900 Vernon Place
Cincinnati, OH 45219
(513) 281-2900

In addition to its Cincinnati headquarters, the firm has a major office in Chicago. Projects under way include a $14 million lab in Hartford, Conn., for Loctite Corp., a lab for the University of Cincinnati's Institute of Environmental Health, and a $15 million lab in Bethesda, Md., for the National Institutes of Health. *A.M. Kinney Jr., Chmn.; D.L. Reeder, Pres.; R.L. Ahlbrand, Vice Chmn.*

33 (22) $9.89
Hayes, Seay, Mattern & Mattern Inc.
P.O. Box 13446
Roanoke, VA 24034
(703) 857-3100

The firm is best-known for labs, industrial plants, explosives facilities, health care facilities, parking structures and communications centers. It is also known for renovation projects, which accounted for 65 percent of the firm's work. Last year this privately held firm acquired Communications Technology Associates Inc., a communications engineering firm in Lynchburg, Va. *H. Boyd Dickenson, CEO; T. Howard Noel, Pres.*

37 (33) $7.87
Stetson-Harza
181 Genesee St.
Utica, NY 13501
(315) 797-5800

In addition to its headquarters, this employee-owned firm operates offices in Troy and Newburgh, N.Y., Concord, N.H., and Chicago. Total billings for calendar 1990 were $17.9 million; C.I.I. work represented 44 percent of the total. Public-sector projects accounted for 47 percent of the firm's work. *John B. Stetson, Pres.*

31 (35) $10.09
Foth & Van Dyke
P.O. Box 19012
Green Bay, WI 54307
(414) 497-2500

The firm has branch offices in St. Louis, Chicago, Tampa, Minneapolis, Milwaukee and Madison, Wis. In terms of building construction, this privately held firm specializes in industrial, educational, health care and commercial structures. Staff numbers 375. *Steven K. Van Dyke, Chmn.; Joseph A. Homel Jr., Pres.*

34 (26) $9.49
Gee & Jensen Inc.
P.O. Box 24600
West Palm Beach, FL 33416
(407) 683-3301

Gee & Jensen's marketing emphasis includes waterfront facilities, light manufacturing/office buildings, libraries, educational facilities and roof consulting. Branch offices in Florida are located in Coral Springs, Fort Myers, Orlando, Sarasota, Stuart and Titusville. Staff numbers 273. Public-sector projects accounted for 40 percent of the firm's work. *Fred A. Greene, Chmn., Pres.*

38 (37) $7.63
Schemmer Associates Inc.
1044 N. 115th St.
Omaha, NE 68154
(402) 493-4800

The firm's marketing emphasis is on health care, transportation engineering, commercial/retail rehabilitation and municipal projects. Reconstruction accounted for 42 percent of the firm's work. Branch offices are located in Seattle, Tampa, Orlando, Davenport, Iowa, and Moline, Ill. Staff numbers 112. *J.A. Schemmer, Chmn.; Roger Wozny, Pres.*

32 (32) $10.00
Rose, Beaton + Rose
81 Main St.
White Plains, NY 10601
(914) 682-4850

This privately held firm is best-known for computing centers, telecommunications facilities, industrial and R&D buildings. *William A. Rose Jr., Daniel Beaton, Ptnrs.*

35 (39) $9.00
Donohue
4738 North 40th St.
Sheboygan, WI 53083
(414) 458-8711

Donohue's building specialties include schools, hotels, municipal buildings, theaters and industrial facilities. Donohue's total revenues from design and planning were $60 million in 1990, of which 15 percent involved C.I.I. building projects. Staff numbers 1,028. The firm is privately held. Public-sector projects accounted for 40 percent of the firm's work. *Keith J. Garnett, CEO*

39 (48) $7.41
TSP Group Inc.
1110 West Ave. N., #102
Sioux Falls, SD 57104
(605) 335-8448

The firm is best-known for educational and medical facilities, industrial/manufacturing facilities, office buildings and nursing/retirement communities. The firm reported continued expansion into design/build delivery, construction management and general contracting activities. Current projects include high school and community college expansions, hospital expansions and a county jail. *Ronald W. Mielke, Pres.*

***Schemmer Associates is providing engineering and project management services** for the 78,000-sq.-ft. Fine Arts Education Building at the University of Nebraska at Omaha. Completion is scheduled for June 1992.*

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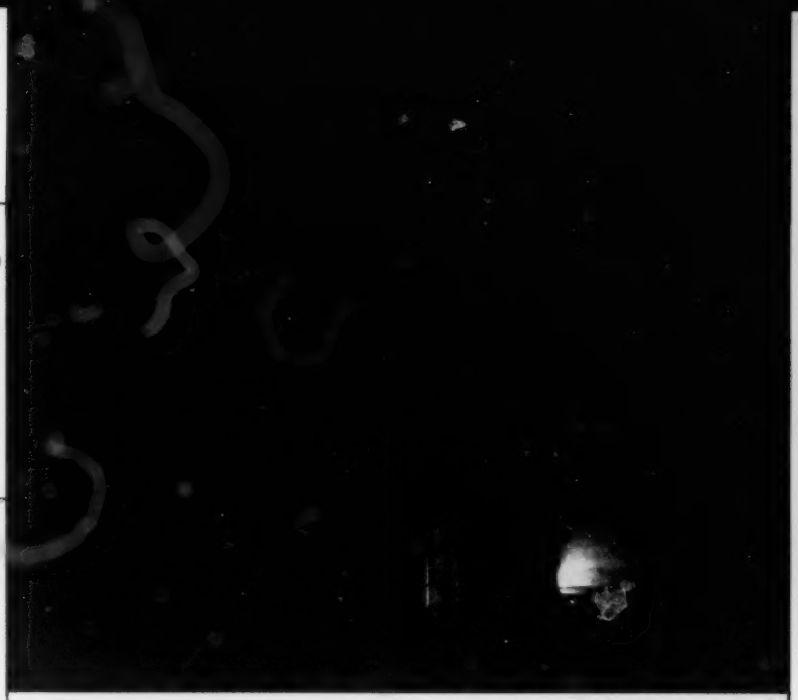
ENGINEER/ ARCHITECTS

40 (49) **$7.37**
Shive-Hattery Inc.
P.O. Box 1599
Cedar Rapids, IA 52406-1599
(319) 362-0313

In addition to its Cedar Rapids headquarters, this employee-owned firm has branch offices in Moline, Ill., and Iowa City and Des Moines, Iowa. Staff numbers 184, up from 158 last year. Reconstruction accounted for 35 percent of the firm's work; public-sector work accounted for 25 percent. *Donald P. Hattery, Chmn.*

41 (—) **$7.05**
TAMS Consultants Inc.
655 Third Ave.
New York, NY 10017
(212) 867-1777

The firm is best-known for airport and rail terminals, transit facilities, educational facilities and industrial/maintenance facilities. Total billings for 1990 were $35.2 million, of which 20 percent involved commercial, industrial and institutional buildings. Current projects include improvements to Penn Station in New York City and redevelopment of JFK International Airport. *Austin E. Brant Jr., Pres.*



***Booker Associates was the project manager** for the $8.2 million Cahokia Mounds Museum and Interpretive Center. The museum is part of a historic preservation site of an Indian city in Illinois.* Photo: Doug McKay

42 (40) **$6.71**
Allen & Hoshall
2430 Poplar Ave.
Memphis, TN 38112
(901) 327-8222

In addition to its Memphis headquarters, this privately held firm operates branch offices in Knoxville, Nashville, and Jackson, Miss. Primary marketing emphasis is on industrial and military facilities. Recent projects include a medium-security prison in Mountain City, Tenn., a commissary at Camp Lejeune (N.C.) for the U.S. Navy, and a hangar at Kelley AFB (Texas) for the Air Force. *Frank B. Gianotti III, Pres.*

43 (46) **$6.70**
Hixon Inc.
25 Merchant St., #400
Cincinnati, OH 45246
(513) 771-5700

Hixon's emphasis is on facilities for corporate clients, including offices, R&D, retail, hotels and processing plants. Reconstruction projects accounted for 65 percent of the firm's work in 1990. The firm is privately held. *J. Wickliffe Ach, Pres., CEO*

44 (—) **$6.65**
Buchart-Horn Inc./ BASCO Associates
P.O. Box 15055
York, PA 17405-7055
(717) 843-5561

The firm is best-known for municipal and educational facilities, nursing and retirement centers, industrial facilities, and control and instrumentation. Total billings for design and planning last year were $25.6 million, of which 26 percent involved C.I.I. buildings. Current projects include two new elementary schools, a county prison expansion and a county courthouse renovation. *John B. Jung, Pres.*

45 (41) **$6.65**
Booker Associates Inc.
1139 Olive St.
St. Louis, MO 63101
(314) 421-1476

In addition to its St. Louis headquarters, the firm has offices in Wichita, Lexington, Ky., and Fairview Heights, Ill. The staff of this employee-owned firm numbers 270. Public projects accounted for 60 percent of the firm's work in the fiscal year ended June 30, 1990; reconstruction accounted for 20 percent. *Robert C. Flory, Chmn., CEO*

46 (44) **$6.46**
Anderson-Nichols & Co. Inc.
31 St. James Ave.
Boston, MA 02116
(617) 695-3400

Environmental and transportation projects are a growing share of the work of this employee-owned firm. The firm is best-known for high-tech, research, office and industrial buildings. A branch office is located in Concord, N.H. Total revenues from design and planning were $9.8 million, of which 66 percent involved C.I.I. building projects. *Joseph F. Keane, Pres., CEO*

47 (47) **$6.08**
Kenneth Balk & Associates Inc.
P.O. Box 27338
St. Louis, MO 63141
(314) 576-2021

Current projects include a $25 million expansion of a retail center in Richmond Heights, Mo., and a new $7.4 million Lord & Taylor department store in Buffalo, N.Y. During the past year the firm began a new marketing effort focused on investigative engineering. This privately held firm has a branch office in Houston. *Kenneth Balk, Pres., CEO*

48 (50) **$5.89**
BEI Associates Inc.
150 W. Jefferson Ave.
Detroit, MI 48226
(313) 963-2300

This employee-owned firm has a staff of 125 employees. Projects under way include a detention center in Detroit, distribution centers at various locations for Coca-Cola, a $10 million pharmaceuticals manufacturing plant in Detroit and a finishing mill in Permanente, Calif. Reconstruction projects accounted for 40 percent of the firm's work. *Christopher P. Kittides, Pres., CEO*

49 (9) **$5.56**
Chas. T. Main Inc.
Prudential Center
Boston, MA 02199
(617) 262-3200

This employee-owned firm has a staff numbering 1,198. Total revenues from design and planning in 1990 were $111.2 million; 95 percent of the firm's work involved non-C.I.I. projects, including utility plants and water and waste treatment plants. Parsons Corp. is the parent firm of Chas. T. Main. *James T. Callahan, Pres.*

50 (—) **$5.49**
HWH Inc.
1150 West Third St.
Cleveland, OH 44113
(216) 623-0220

This employee-owned firm is best-known for industrial projects, which accounted for 62 percent of its design and planning in 1990. The firm has recently intensified its marketing efforts on labs and computer facilities. Among projects under way are a 90,000-sq.-ft. office building in Cleveland, and buildings for a theme park in Kirtland, Ohio. Staff numbers 100. *H. Robert Wismar Jr., Chmn.*

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ENGINEERS

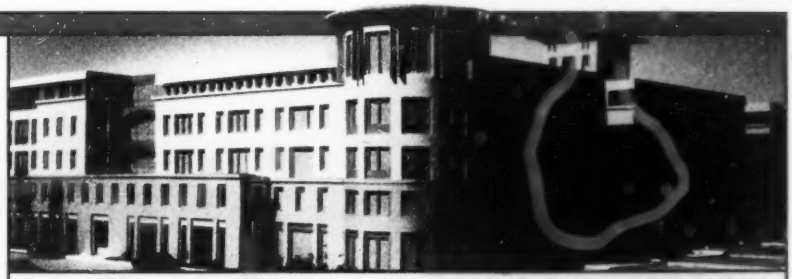
ENGINEERS REPORT CONTINUED GROWTH

For the second year, the Engineers show major increases by the top three firms and healthy growth by the rest

1
(2)
$477.02

Fluor Daniel Inc.
100 Fluor Daniel Drive
Greenville, SC 29601
(714) 975-2000

Firm is also listed in the General Contractors and Design/Builders categories. Staff increased by more than 2,000 and C.I.I. billings for engineering rose by more than $200 million. Staff now totals almost 20,000 in such locations as Houston, Chicago and Irvine, Calif. Recent projects include the design of a tissue mill in Loudon, Tenn., and a paper mill expansion in Rincon, Ga. *Vince Kontny, Pres., CEO*



Syska & Hennessy provided engineering services for the Paramount Pictures Office Building in Los Angeles. Photo: Syska & Hennessy.

2
(1)
$364.00

United Engineers & Constructors
30 S. 17th St.
Philadelphia, PA 19101
(215) 422-3000

Firm is a subsidiary of Raytheon Co., Lexington, Mass. Staff increased by almost 1,000, including more than 300 engineers, to a total of 6,000. The firm anticipates a 25 percent increase in revenues in 1991 after an almost 10 percent increase in 1990. The firm expanded its environmental engineering laboratory in Boothwyn, Pa. *Charles Miller, Pres., CEO; Thomas Zarges, VP, Bus. Devel.*

5
(—)
$79.77

Morrison Knudson Corp.
1 Morrison Knudson Plaza
Boise, ID 83707
(208) 386-5000

The firm is new to the Engineers list this year, but has ranked among Design/Builders, Construction Managers and General Contractors in the past, as it does this year. Total revenues exceeded $1 billion. Almost 50 percent of engineering billings was derived from industrial building projects. No commercial or institutional engineering was reported. The publicly held firm has a staff of 12,500. *William Agee, Chmn., CEO*

8
(7)
$36.55

Syska & Hennessy Inc.
11 W. 42nd St.
New York, NY 10036
(212) 921-2300

The firm sold its San Francisco office to the branch's employees, but will continue a working relationship with the office. New work is being pursued in Southern California by its Los Angeles office. Firm is experiencing increases in educational and public facilities, but the economy contributed to an overall downturn in revenues. Staff size decreased by 60 to 422. *John F. Hennessy, Chmn., CEO; Christopher Richmond, Pres., COO*

3
(9)
$96.02

BE&K Inc.
2000 Int'l Park Drive
Birmingham, Al 35243
(205) 969-3600

Firm is also listed in General Contractors, Design/Builders and Construction Managers categories. Firm's engineering revenues increased, as did its percentage of engineering work. Engineering work increased by more than $60 million, while design/build work decreased. Recent engineering projects include pulp mills in Pennsylvania and Alabama. The firm's five U.S. offices are located mainly in the South and Southeast. *Ted C. Kennedy, Chmn., CEO*

6
(6)
$57.15

Dames & Moore
911 Wilshire Blvd.
Los Angeles, CA 90017
(213) 683-0471

Engineering billings estimated by *BD&C*. The firm reported total revenues of $300 million, but indicated that much of that involved non-C.I.I. work, such as waste management services. Geographic and services expansions were reported by the firm, which also increased its staff by 300 to a total of 3,500. *George D. Leal, CEO; Hank Klehn, COO; Robert Perry, CFO*

9
(10)
$30.00

Flack + Kurtz Consulting Engineers
475 Fifth Ave.
New York, NY 10017 (212) 532-9600

Staff decreased slightly, as did total revenues. The percentage of C.I.I. work increased, however, resulting in higher reported billings. The firm expanded further into Europe by forming a joint venture with a Berlin engineering firm. Projects include the World Bank, Washington, D.C., AT&T Labs in New Jersey and the Madison Square Garden renovation in New York City. *Peter Flack, Norman Kurtz, Managing Ptnrs.*

4
(3)
$88.20

Simons-Eastern Consultants Inc.
One West Court Square
Decatur, GA 30030
(404) 370-3200

The firm opened an office in Greenville, S.C., and now has six U.S. offices, including those in Minneapolis and Portland, Maine. An increase in food processing plants raised the firm's percentage of C.I.I. billings. Reconstruction work increased from 8 percent to 30 percent of total revenues. Structural engineering work increased from 15 to 20 percent of total work. A downturn in revenues is expected in 1991. *T.W. Lane, Pres.*

7
(4)
$46.20

Law Engineering Inc.
P.O. Box 888013
Atlanta, GA 30356
(404) 396-8000

The 1,500-person firm is best-known for geotechnical engineering, materials testing and roofing design programs. Billings, including non-C.I.I. work, exceeded $100 million. Projects include roofing investigations for the Texas Dept. of Corrections and threshold inspections for Universal Studios, Orlando. *Walter T. Kaiser, CEO; James Hangar, Pres.*

10
(12)
$30.00

Martin Associates Group Inc.
1800 Wilshire Blvd.
Los Angeles, CA 90057
(213) 483-6490

Civil and environmental work increased from 5 to 10 percent of total billings, while government projects increased from 10 to 30 percent of total billings. Recent projects for the 300-person structural engineering firm include the MGM Grand Hotel in Las Vegas, the Los Angeles County Jail expansion and the University of Arizona Medical Center in Tucson. A branch office is located in Honolulu. *John A. Martin, CEO*

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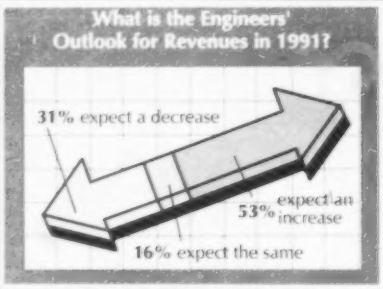
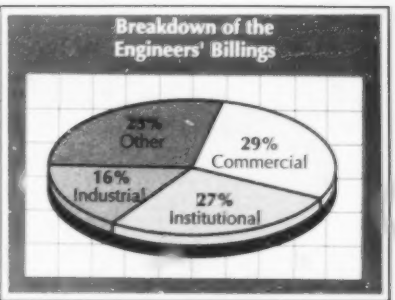
ENGINEERS

11 (—) **$23.14**
Parsons Brinckerhoff
One Penn Plaza
New York, NY 10119
(212) 465-5000

The firm is new to the list this year. With offices throughout the country, the company is known mainly for its transportation projects. The 2,760-person firm is actively marketing airport buildings. Recent C.I.I. work includes a General Motors loading facility in Tarrytown, N.Y., a hospital modernization in Brooklyn and engineering for the Superconductor in Waxahachie, Texas. *James Lammie, CEO*





12 (5) **$22.50**
Bechtel Group Inc.
50 Beale St.
San Francisco, CA 94119
(415) 768-1234

The firm, known largely for its utility plant projects, is also listed in the Design/Builders category. C.I.I. projects include hotels and airports. The firm, which has a staff of 54,000, reported total revenues of more than $5 billion. Riley Bechtel succeeded his father as head of the firm, representing a fourth generation of family leadership. *Riley Bechtel, Pres.*

14 (17) **$15.30**
R.G. Vanderweil Engineers
266 Summer St.
Boston, MA 02210
(617) 423-7423

This mechanical and electrical engineering firm does 80 percent of its work for owner-occupied facilities. Fifteen percent of its work was for reconstruction projects. Its staff of 185 includes 24 engineers. Recent projects include the Beach and Yacht Club Hotels at Walt Disney World, Fla., a 2 million-sq.-ft. mall in suburban Chicago and a molecular research facility in Pearl River, N.Y. *Gary Vanderweil, Pres.*

16 (21) **$12.24**
Simpson Gumpertz & Heger Inc.
297 Broadway
Arlington, MA 02174
(617) 643-2000

Reconstruction work accounted for 50 percent of revenues for this structural engineering firm. Architects are the firm's main client base, although it does some work directly for building owners. The firm has worked on some international projects in the past, but none were reported for 1990. The staff of 130 includes 34 structural engineers. *Howard Simpson, CEO*

13 (11) **$21.30**
O'Brien & Gere Engineers
P.O. Box 4873
Syracuse, N.Y. 13221
(315) 437-6100

Staff increased by 50 to a total of 580 and total revenues grew by more than 10 percent to $55.4 million. Reconstruction work accounted for 85 percent of billings, an increase from 60 percent in 1990. Government work decreased slightly to 33 percent of total billings. Recent projects include the firm's 190,000-sq.-ft. corporate offices in Syracuse. *John Loveland, Pres., Chmn.*

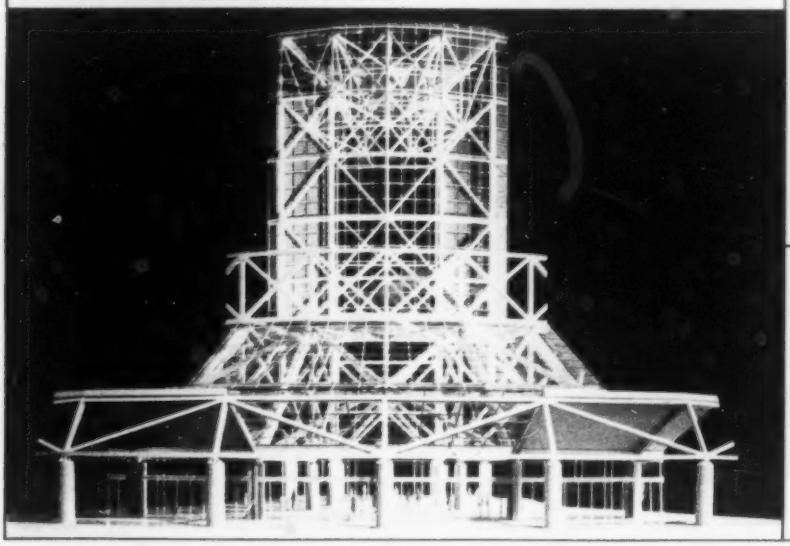
15 (18) **$12.78**
AVCA Corp.
5855 Monroe St.
Sylvania, OH 43560
(419) 885-2822

The firm acquired Rightmyer, Johnson & Assoc., a Toledo, Ohio-based mechanical engineering firm. Staff increased by 40 to 223. This privately held firm mainly performs mechanical/electrical engineering, but derived 6 percent of its billings from structural engineering. Seventy-five percent of billings were derived from industrial projects. *William Christoffers, Pres., CEO; Dean Diver, Gregg Simon, Ptnrs*

17 (22) **$11.18**
Rolf Jensen & Assoc.
1751 Lake Cook Road
Deerfield, IL 60015
(708) 948-0700

This fire protection engineering and building code consultant has offices in Toronto and Vancouver in addition to eight U.S. offices. Fifty percent of the firm's work is commercial, 45 percent is institutional and the balance involves industrial projects. The staff of 152 includes 65 engineers and 10 registered architects. Recent project types include prisons, office buildings, museums and convention centers. *Rolf Jensen, Pres.*

***Rolf Jensen & Associates provided** fire protection engineering for the Los Angeles Convention Center addition.* Photo: Mark Lohman



18 (20) **$10.35**
Joseph R. Loring & Assoc.
1 Pennsylvania Plaza
New York, NY 10119
(212) 563-7400

The firm's emphasis is on educational, correctional and airport facilities and historical restorations. Projects include the $36 million renovation of Erasmus Hall High School in Brooklyn, N.Y., a 200-bed women's prison in Delaware and a $20 million U.S. Federal Courthouse in Maryland. The staff of 128 includes 16 registered engineers. A branch office is located in Washington, D.C. *Joseph R. Loring, Chmn., CEO*

19 (26) **$9.75**
Paulus Sokolowski and Sartor Inc.
P.O. Box 4039
Warren, NJ 07060
(201) 560-9700

The firm reported an increase in environmental engineering and more work as prime consultant to building owners. Recent projects include the Taj Mahal hotel/casino in Atlantic City, N.J., and a multibuilding corporate campus for Prudential Insurance Co. in Parsippany, N.J. The privately held firm has a branch office in Tampa, Fla. *William Paulus Jr., Pres.; Anthony Sartor, Exec. VP*

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20 (29) **$9.51**

Smith Seckman Reid Inc.
3319 Westend Ave.
Nashville, TN 37203
(615) 383-1113

The firm is best known for its mechanical/electrical work on health care facilities. Recent projects include a $30 million addition to a children's psychiatric center at the University of North Carolina's medical center and a $40 million Bed Tower for Vanderbilt University Medical Center in Nashville. The firm reported an increased marketing emphasis in the industrial sector. *J. Robin Barrick, Pres., CEO*

21 (27) **$9.35**

KPFF Consulting Engineers
1201 Third Ave.
Seattle, WA 98101
(206) 622-5822

This structural engineering firm increased staff by more than 10 percent to a total of 175 and its billings increased by $1 million. Branch offices are located in Los Angeles and Portland, Ore. Recent projects include a 22-story office building in Seattle, a $22 million high school in Los Angeles and the 500,000-sq.-ft. Oregon Convention Center in Portland. *David T. Thomas, Pres.*

22 (15) **$9.32**

Patton Harris Rust and Assoc. P.C.
3998 Fair Ridge Drive
Fairfax, VA 22030
(703) 273-8700

This employee-owned firm emphasizes commercial office buildings, schools and industrial parks. Total revenues exceeded $15 million, but more than $5 million was for non-C.I.I.-related categories. Recent projects include the $53 million U.S. Holocaust Museum in Washington, D.C., and the $200 million Air & Space Museum in Fairfax County, Va. *Charles Weber, Pres.; Thomas Rust, Sr. VP; Eugene Fournier, Sr. VP*

***Mechanical/electrical** engineering for the St. Luke's Medical Tower in Houston was provided by I.A. Naman + Associates.*

23 (25) **$9.05**

Robson & Woese Inc.
P.O. Box 0606
East Syracuse, NY 13057
(315) 445-2650

This mechanical/electrical engineer specializes in health care facilities, laboratories, correctional facilities and shopping malls. Fifty-seven percent of the firm's work is for institutional projects. Billings listed above do not include more than $1 million generated by utility projects. Staff totals 143. *Philip French, Chmn.; Theodore Knowles, Pres.*

24 (—) **$9.03**

The Stanley Consultants Group
225 Iowa Ave.
Muscatine, IA 52761
(319) 264-6600

This full-service engineering firm is a new addition to the list. Staff of 391 includes 145 registered engineers. Branch offices are located in cities throughout the country including Chicago, Phoenix and West Palm Beach, Fla. Total revenues exceeded $21 million but included non-C.I.I. work and foreign projects. A recent project was at Chicago's Navy Pier. *Richard Stanley, Chmn.; Gregs Thomopulus, Pres.*

25 (19) **$9.02**

Gilbert/Commonwealth Inc.
Box 1498
Reading, PA 19603
(215) 775-2600

Billings listed above account for only 8 percent of total revenues and were derived solely from industrial projects. Staff of 1,880 includes 107 mechanical engineers and 63 electrical engineers. Sixty percent of total revenues were derived from mechanical/ electrical services. The firm reorganized its management in 1990. *Timothy Cobb, Pres.; William Sailer, Sr. VP*

26 (23) **$8.61**

Weidlinger Associates
333 Seventh Ave.
New York, NY 10001
(212) 563-5200

An additional $13 million in revenues was derived from foreign work and highway/civil projects. This structural engineer is marketing a structural CADD software program (WAMS) that it developed. Recent projects include TropWorld Hotel & Casino, Atlantic City, N.J., the Georgia Dome in Atlanta and parking facility restoration in Greenwich, Conn. *Paul Weidlinger, Prin.*

27 (28) **$8.37**

Newcomb & Boyd
One Northside 75
Atlanta, GA 30318
(404) 352-3930

This mechanical, electrical and acoustical engineering firm derived 64 percent of its billings from institutional projects, an increase of 36 percent from 1990. Reconstruction accounts for a quarter of the firm's projects. Recent projects include a federal prison in Butner, N.C., a medical building in Roanoke, Va., and a sports facility in Athens, Ga. *Warren D. Shiver, Ptnr.*

28 (30) **$7.94**

Schirmer Engineering Corp.
707 Lake Cook Road
Deerfield, IL 60015
(708) 272-8340

Reconstruction work accounted for 75 percent of this fire protection engineer's revenues. Services also include code consultation, fire protection system design and risk management for commercial, institutional and government clients. Recent projects include the Charlotte Convention Center in North Carolina and a Hyatt Regency hotel in Atlanta. *Chester W. Schirmer, Pres.*

29 (34) **$7.57**

Affiliated Engineers Inc.
625 W. Segoe Road
Madison, WI 53705
(608) 238-2616

This mechanical/electrical firm is known for design of R&D laboratories, hospitals and data centers. Staff of 112 includes 45 engineers. Branch offices are located in Seattle, Columbus, Ind., and Gainesville, Fla. Industrial projects account for 55 percent of the firm's work and the rest is split evenly between commercial and institutional projects. *Peter E. Starkweather, Pres.*

30 (—) **$7.41**

I.A. Naman + Assoc. Inc.
Two Greenway Plaza
Houston, TX 77046
(713) 623-0220

The firm is a new addition to the list this year. Branch offices for this 100-person mechanical/electrical firm are located in San Francisco and Alexandria, Va. Reconstruction projects account for 20 percent of the firm's work. Recent projects include St. Luke's Medical Tower, Houston, a 51-story office high-rise in Minneapolis and an office building in Detroit. *Philip Sheridan, Chmn.; Jack Buckley, Vice Chmn.*

31 (38) **$7.30**

Walter P. Moore and Associates Inc.
3131 Eastside
Houston, TX 77098
(713) 630-7300

This structural and civil engineer derived 15 percent of its billings from sports stadiums and public facilities. The staff of 120 includes 59 structural engineers. Branch offices are located in Atlanta and Tampa, Fla. Current projects include the Texas Capitol restoration and extension, the Milwaukee Brewers baseball stadium and a convention center in Charlotte, N.C. *Walter P. Moore, Chmn., Pres.*

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ENGINEERS

32 (32) **$5.90**
LeMessurier Consultants
1033 Massachusetts Ave.
Cambridge, MA 02238
(617) 868-1200

Ten percent of this structural, mechanical and electrical engineer's billings were from arena projects. Reconstruction work made up 20 percent of revenues, an increase from 15 percent in 1989. Structural engineering accounted for 69 percent of revenues. Recent projects include a $20 million museum in Atlanta and a 136,000-sq.-ft. arena in Waltham, Mass. *William LeMessurier, Chmn.; Mysore Ravindra, Pres.*

The top firms in the Engineers category reported substantial increases in staff size.

33 (35) **$6.75**
Lowry-Sorensen-Willcoxson Engineers Inc.
2333 W. Northern Ave.
Phoenix, AZ 85021
(602) 249-1320

Government work was down from 50 percent of revenues in 1989 to 15 percent in 1990 for this mechanical, electrical and plumbing engineering firm. The 66-person firm has branch offices in Phoenix and San Diego. Current projects include the world's largest thermal storage project at Arizona State University and a $70 million barracks/dining facility at Fort Huachuca, Ariz. *Robert J. Willcoxson, Pres.*

35 (37) **$6.29**
Skilling Ward Magnusson Barkshire Inc.
120 Fifth Ave.
Seattle, WA 98101 (206) 292-1200

This structural engineering firm generated $2 million in revenues from foreign work that is not included in the figure above. Government work increased from 4 percent in 1989 to almost 17 percent in 1990. Recent projects include the $55 million New Seattle Arena, a 63,000-sq.-ft. Boeing paint hangar and the Minneapolis Convention Center. *John Skilling, Chmn.; Jon Magnusson, CEO; Ad Gouwerok, Sr. VP*

37 (—) **$5.97**
R.E. Warner & Associates
2001 Crocker Road
Westlake, OH 44145
(216) 835-9400

This 157-person mechanical/electrical engineering firm is a new addition to the list this year. Industrial buildings account for 40 percent of the firm's billings. Eighty percent of the firm's work focuses on reconstruction projects. The firm was recently reorganized into three divisions; Facilities Engineering, Governmental and Environmental. *Vincent Traina, CEO; Donald Klebe, Pres.*

34 (31) **$6.49**
Carter & Burgess Inc.
P.O. Box 2973
Fort Worth, TX 76113
(817) 335-2611

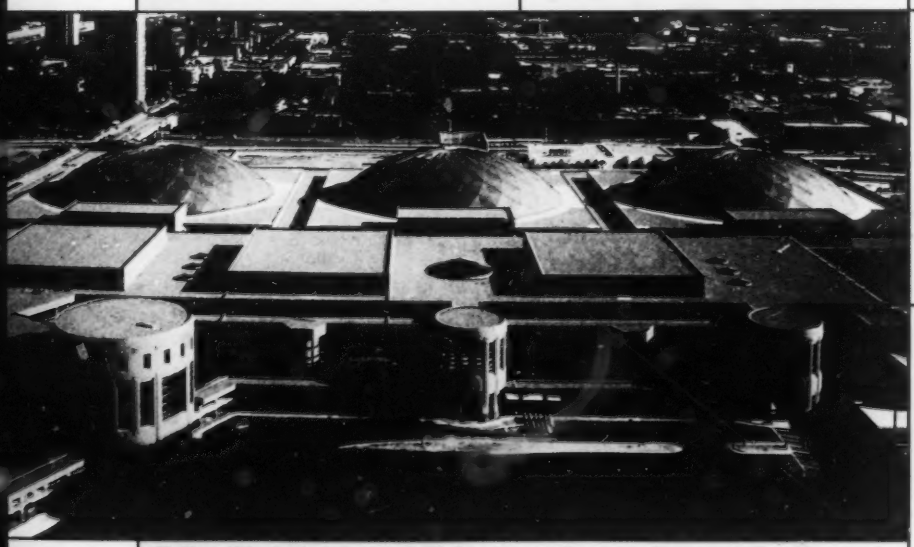
This full-service engineering firm has increased its staff from 237 to a total of 308 through the acquisition of a Houston civil engineering firm. In addition to three offices in Texas, firm has another located in Fort Myers, Fla. Total revenues exceeded $22 million, but more than 60 percent was in non-C.I.I. categories. *Jerry W. Allen, Pres., CEO*

36 (40) **$6.03**
H.F. Lenz Co.
1732 Lyter Drive
Johnstown, PA 15905
(814) 255-5821

This 112-person firm is best-known for the retrofit of high-rise structures and for the design of new health care and educational facilities. Reconstruction projects accounted for 51 percent of its billings. Recent projects include the $40 million renovation of a historic hotel in Wilmington, Del., and the $86 million conversion of a historic building into an office/retail complex. *Charles J. Neuhoff, Pres.*

38 (—) **$5.77**
Goetting & Assoc. Inc.
70 N.E. Loop 410
San Antonio, TX 78216
(512) 349-2477

The firm is a new addition to the list this year. It provides mechanical/electrical engineering for health facilities, theme parks, military/government projects and office buildings. Entertainment projects account for 25 percent of the firm's billings, while government projects account for 40 percent. Recent projects include a $65 million theme park in San Antonio. *Fred Goetting, Pres*



***Skilling Ward Magnusson Barkshire** provided structural engineering services for the Minneapolis Convention Center.* Photo: C.M. Korab

39 (33) **$5.67**
EA-Mueller Inc.
1401 S. Edgewood St.
Baltimore, MD 21227
(301) 646-4500

This mechanical/electrical engineering firm is a division of EA Engineering, Science and Technology Inc. Forty percent of billings was derived from government projects and 55 percent was derived from reconstruction work. Firm's staff of 90 includes 42 engineers. Recent projects include a $13 million museum in Winterthur, Del., and a $15 million addition to a VA medical center in Maryland. *Eugene Nerf Jr., Sr. VP; Charles Curt, Division Dir.*

40 (—) **$5.50**
The Office of Irwin G. Cantor
219 E. 42nd St.
New York, NY 10017
(212) 949-9150

This structural engineering firm is a new addition to the list this year. Best-known for its work on commercial high-rise projects and complex structures, the firm is changing its emphasis to include government and reconstruction projects. Inspections of facilities accounted for 5 percent of revenues. A subsidiary branch office is located in London. *Irwin Cantor, CEO; Ysreal Seinuk, Pres.*

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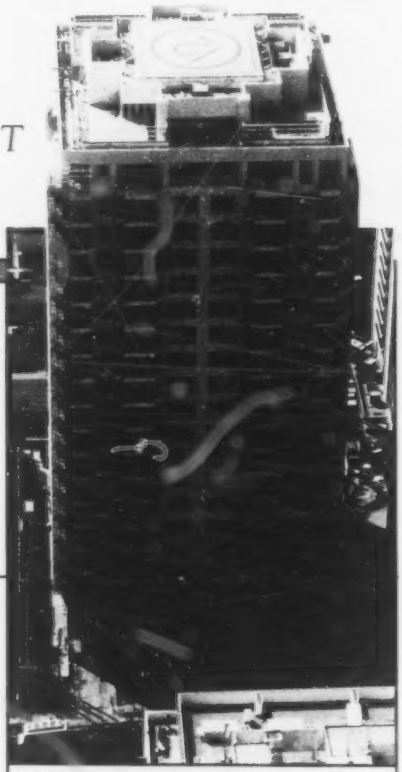
DESIGN/BUILDERS

DESIGN/BUILDER VOLUME RISES BY 5 PERCENT

Larger firms are placing more emphasis on C.I.I. work and design/build services



Charles Pankow Builders recently completed the 10380 Wilshire Tower, a 20-story condominium in Los Angeles.
Photo: Warren Aerial Photography

1 (1) **$1,566.00**
The Austin Co.
3650 Mayfield Road
Cleveland, OH 44121
(216) 382-6600

Austin's staff of 2,500 includes 1,400 registered engineers and 100 registered architects. Firm's specialties include R&D centers, computer-integrated manufacturing plants and automated distribution centers among others. It was awarded three major contracts for airport projects in Japan last year. Ninety-five percent of its work involved owner-occupied facilities during the same period. *Thomas J. Judge, Pres.*

2 (2) **$1,313.90**
Fluor Daniel
100 Fluor Daniel Drive
Greenville, SC 29607-2762
(714) 975-2000

Fluor Daniel also ranks in the CM, GC and Engineers categories. Firm has U.S. regional offices in Houston, Chicago, Marlton, N.J., and Irvine and Redwood City, Calif. Recent design/build projects include the Clemson Research Foundation, a 20,000-sq.-ft. toxicology research lab in Pendleton, S.C. *Vincent L. Kontny, Pres., CEO*

3 (6) **$520.00**
United Engineers & Constructors International Inc.
30 S. 17th St.
P.O. Box 8223
Philadelphia, PA 19101
(215) 422-3000

United also ranks in the Engineers category and performs general contracting and CM work. Firm continues to serve a wide range of industries, including pharmaceuticals, biotechnology, electronics, metals and general manufacturing. Twenty percent of its work was government-related last year. *Charles Q. Miller, Pres., CEO*

4 (4) **$503.60**
Charles Pankow Builders Ltd.
2476 N. Lake Ave.,
P.O. Box 253
Altadena, CA 91001
(213) 684-2320

Pankow also ranks in the GC category. Firm has offices in San Francisco, San Diego and Honolulu. All work involved commercial buildings last year; 14 percent involved reconstruction. Firm continues to specialize in mid- to high-rise office buildings, hotels and condominiums, retail centers and parking structures. *Charles J. Pankow, Chmn.*

5 (10) **$323.70**
Bechtel Group Inc.
50 Beale St.
San Francisco, CA 94119
(415) 768-1234

Bechtel also ranks in the Engineers category and performs CM work. The figure above reflects its C.I.I. work, which accounts for only 13 percent of the construction it put in place during calendar 1990. One-third of firm's work was government-related during the same period. Its specialties include studies, design, engineering, construction, construction management, procurement and financing services among others. *R.P. Bechtel, Pres.*

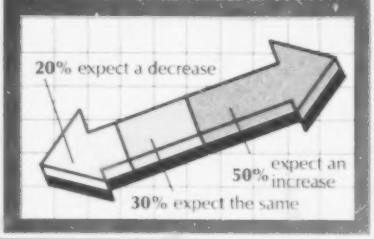
6 (8) **$280.65**
Kajima International Inc.
2100 N. Central Road
Fort Lee, NJ 07024
(201) 944-9800

Kajima also ranks in the GC category. Its design/build work involves manufacturing and process-related facilities. Firm also performs interior design/build work for banking and securities-related businesses. Sixty percent of its work last year involved owner-occupied facilities and 20 percent involved reconstruction. Firm expects revenues to remain the same in 1991. *Ayao Katayama, COO*

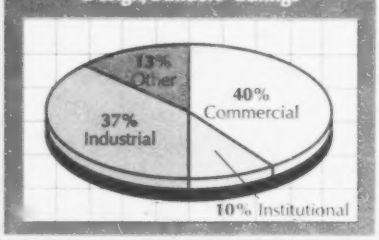
7 (3) **$254.77**
BE&K Inc.
2000 International Park Drive
Birmingham, AL 35243
(205) 969-3600

BE&K also ranks in the CM, GC and Engineers categories. It has offices in Houston, Baton Rouge, Raleigh, N.C., and Mobile, Ala. Firm is known for its design and construction of industrial plants, commercial and retail facilities, and power and cogeneration plants. Nearly two-thirds of its work last year involved industrial facilities. *Ted C. Kennedy, Chmn., CEO*

What is the Design/Builders' Outlook for Revenues in 1991?



Breakdown of the Design/Builders' Billings



8 (17) **$246.75**
SAE/Carlson
321 Commonwealth Road
Cochituate, MA 01778
(617) 969-1200

Firm was formerly known as the Carlson Group. Its parent company, SAE America Inc., has reorganized Carlson to focus on design/build and A/E services. Firm specialties include manufacturing, office, R&D, laboratory and warehouse facilities among others. Industrial buildings accounted for 50 percent of its work last year, while commercial buildings accounted for 40 percent. *Alan W. Jackson, Pres., CEO*

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DESIGN/BUILDERS

9 (—) **$200.00**

Bellemead Construction Corp.
4 Becker Farm Road
Roseland, NJ 07068
(201) 740-1110

Bellemead also performs GC work. Firm emphasizes commercial office buildings, data centers and build-to-suit projects. Commercial buildings accounted for 90 percent of its work last year, while industrial buildings made up the balance. Firm expects revenues to drop by 25 percent next year. *James E. Kearny, Sr. VP*

Eighty percent of the top 20 D/Bs reported reconstruction activity.

16 (16) **$131.00**

Schumacher & Forelle Inc.
277 Northern Blvd.
Great Neck, NY 11021
(516) 482-8730

Industrial buildings accounted for 70 percent of activity last year, while commercial buildings accounted for 30 percent. Firm's industrial engineering group continues to experience increased work due to the relocation and consolidation of manufacturing clients. It also continues to provide a full range of services for laboratory, administrative and office facilities. *James W. Schubauer, Pres.*

10 (13) **$183.00**

The Haskell Co.
Haskell Building
Jacksonville, FL 32202
(904) 791-4500

Haskell specializes in the design and construction of manufacturing, distribution, food processing, institutional and office facilities. Industrial projects accounted for 50 percent of its work last year, while institutional and commercial projects accounted for 35 and 15 percent, respectively. Firm expects revenues to decline by 20 percent in 1991. *Preston H. Haskell, Pres.; Kennon G. Holmes, Exec. VP*

13 (7) **$167.69**

Marnell Corrao Associates Inc.
4495 S. Polaris
Las Vegas, NV 89103
(702) 739-9413

Firm continues to engage almost exclusively in Las Vegas-based hotel/casino projects. While such work has temporarily leveled off, firm expects to see moderate growth in the near future. More than 25 percent of its work involved reconstruction last year. Recent Las Vegas projects include the Stardust, a $28 million hotel/casino. *Anthony A. Marnell II, Chmn.*

17 (19) **$123.40**

Sverdrup Corp.
13723 Riverport Drive
Maryland Heights, MO 63043
(314) 436-7600

Sverdrup also ranks in the EA and CM categories. Firm is seeing a resurgence of large projects in the transportation, environmental and food/beverage fields. Industrial projects accounted for 53 percent of its design/build work, commercial projects accounted for 34 percent and institutional accounted for 8 percent. Firm expects revenues to remain the same in 1991. *B.R. Smith Jr., Chmn., CEO*

11 (9) **$178.00**

Opus Companies
P.O. Box 150
Minneapolis, MN 55440
(612) 936-4444

Opus continues to specialize in office, distribution, manufacturing and hotel facilities. Commercial projects accounted for 87 percent of its work last year, while industrial projects accounted for 10 percent. Recent projects include a 178,000-sq.-ft. alumni union for Marquette University in Milwaukee. Firm expects revenues to remain the same in 1991. *Gerald Rauenhorst, CEO*

14 (5) **$145.31**

Hospital Building & Equipment Co.
11330 Olive St. Road
P.O. Box 27339
St. Louis, MO 63141
(314) 567-9000

HBE continues to specialize in the planning, design and construction of health care facilities, particularly those that require complex renovation. Ongoing projects include the St. John's Regional Medical Center, a 367-bed facility in Joplin, Mo. Firm expects its revenues to rise by 10 percent in 1991. *Fred S. Kummer, Pres.*

18 (11) **$110.00**

Marshall Contractors Inc.
75 Newman Ave.
Rumford, RI 02916
(401) 438-3500

Marshall also ranks in the GC category. Firm is best-known for its technical construction capabilities in microelectronics, pharmaceuticals and related industries. Industrial facilities accounted for 70 percent of its work last year, while commercial and institutional accounted for 20 percent and 10 percent, respectively. *John L. Marshall, Pres.*

12 (12) **$171.94**

Morrison Knudsen Corp.
1 Morrison Knudsen Plaza
P.O. Box 73
Boise, ID 83707 (208) 386-5000

MK also ranks in the CM, GC and Engineers categories. Firm has restructured into market-oriented groups to serve industrial, government and transportation sectors. The figure above reflects C.I.I. work, which accounted for only 30 percent of the design/build work it performed in 1990. Almost 15 percent of its total revenues involved government projects. *William M. Agee, Chmn., CEO*

15 (15) **$135.00**

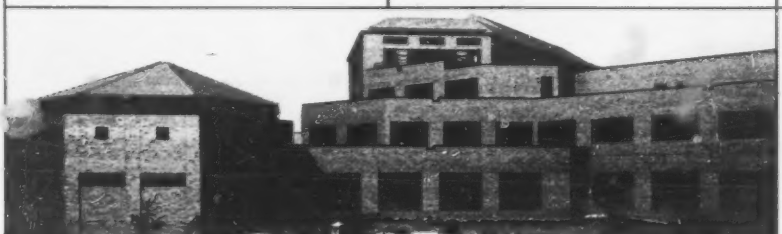
Marshall Erdman & Assoc. Inc.
5117 University Ave.
Madison, WI 53705
(608) 238-0211

Firm expects revenues to increase by 15 percent in 1991. It continues to specialize in the programming, design and construction of ambulatory health care facilities. Fifteen percent of work involved reconstruction last year. Recent projects include clinics in Marshfield, Wis., Sioux Falls, S.D., and Lexington, Ky. *Roger Hauck, Pres.*

19 (18) **$104.00**

James N. Gray Construction Co. Inc.
250 West Main St.
Lexington, KY 40507
(606) 281-5000

Gray continues to provide design/build services for manufacturing facilities. However, it is targeting new sectors within that market including metals, food and consumer products, print and publishing, automotive, distribution and R&D. It expects revenues to decline by 24 percent in 1991. *C.C. Howard Gray, Pres.; James P. Gray II, Exec. VP*



***Marquette University's 178,000-sq.-ft.** alumni union in Milwaukee is a recent project of the Opus Companies.* Photo: Koyama Photography, Minneapolis

20 (—) **$96.89**

The Alter Group
3000 Glenview Road
Wilmette, IL 60091
(708) 256-7700

Firm also has offices in Chicago, Atlanta and Columbia, S.C. Industrial projects accounted for 62 percent of its work last year, while commercial projects accounted for 38 percent. It expects revenues to rise by 5 percent in 1991. *William A. Alter, Chmn., CEO*

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CONSTRUCTION MANAGERS

MAJOR BUILDING PROGRAMS PROPEL GROWTH

Institutional projects, particularly criminal justice facilities, drive Construction Managers' volume upward

1 (1) **$4,750.20**

CRSS Inc.
1177 West Loop South
Houston, TX 77027
(713) 552-2000

Firm also is listed in the Engineer/Architects category. Current projects include a $650 million Union Camp paper mill in Eastover, S.C.; a $75 million newsprint de-inking plant for Bowater Inc. in Canton, N.C.; the $150 million Kern County Reception Center in Wasco for the California Department of Corrections; and a $100 million optical fiber plant for Corning Inc. in Wilmington, Del. *Bruce Wilkinson, Chmn., CEO*

5 (5) **$806.17**

Morrison Knudsen Corp.
1 Morrison Knudsen Plaza
Boise, ID 83707
(208) 386-8000

Company also is listed in the General Contractors and Design/Builders categories. It provided CM for the completed 4 million-sq.-ft. General Motors Saturn auto plant in Spring Hill, Tenn. Current projects include a $100 million renovation of the General Motors truck assembly plant in Shreveport, La., and an 800-bed state prison near Hartford, Conn. *William Agee, Chmn., CEO*

8 (6) **$610.20**

Barton Malow Co.
2777 Franklin Road
Southfield, MI 48034
(313) 351-4500

Current projects include the $105 million Baltimore Orioles Stadium; a new paint shop, body shop and general assembly shop at Chrysler Motors Corp.'s Jefferson Avenue assembly plant in Detroit; the $22 million Athens-Clarke County Civic Center in Athens, Ga.; $13 million of school additions and renovations in Auburn Hills, Mich.; and a $7.8 million expansion of the Ann Arbor (Mich.) Public Library. *Ben Maibach, Pres.*

2 (—) **$1,375.00**

Daniel, Mann, Johnson & Mendenhall (DMJM)
3250 Wilshire Blvd.
Los Angeles, CA 90010
(213) 381-3663

Firm also is listed in the Engineer/Architects category. Current projects include the $130 million expansion of the Moscone Convention Center in San Francisco; the $21 million Pasco County Jail in New Port Richey, Fla.; a $140 million regional U.S. Postal Service mail center in Westchester County, N.Y.; and a $500 million modernization of the Pentagon, scheduled for completion in 1995. *M. Paul Brott, Pres., CEO*

6 (4) **$665.00**

Tishman Realty & Construction Co.
666 Fifth Ave.
New York, NY 10103
(212) 399-3600

Current projects include the 51-story Regent New York Hotel, the renovation of the Algonquin Hotel, construction of a new U.S. Postal Service general mail facility and rehabilitation of the existing Morgan Station post office, all in New York City; the 34-story Sheraton Chicago Hotel & Towers; and the 850,000-sq.-ft. Ronald Reagan State Office Building in Los Angeles. *John Tishman, Chmn., CEO*

9 (—) **$436.49**

Kitchell Corp.
1707 E. Highland
Phoenix, AZ 85016
(602) 264-4411

Firm also is listed in the General Contractors category. It is providing CM for criminal justice programs in seven states — Arizona, Idaho, Indiana, Nebraska, Delaware, Washington and California. Other current projects include several specialty hospitals for National Medical Enterprises. *William Schubert, CEO*

3 (2) **$1,129.39**

Gilbane Building Co.
7 Jackson Walkway
Providence, RI 02940
(401) 456-5800

Current projects include the 1.7 million-sq.-ft. national archives facility in College Park, Md., for the U.S. General Services Administration; the 1.5 million-sq.-ft. R&D facility for Glaxo Inc. at Research Triangle Park, N.C.; a $93 million distribution center for the Limited in Columbus, Ohio; and the $95 million Mickey Leland International Airlines Building at Houston Intercontinental Airport. *Paul Choquette Jr., Pres.*

7 (8) **$623.70**

Lehrer McGovern Bovis Inc.
387 Park Ave. South
New York, NY 10016
(212) 576-4000

Firm provided CM for the completed $93 million Ellis Island restoration in New York Harbor. Projects to be completed this year include the $100 million Beverly Hills (Calif.) Civic Center, the $21 million headquarters of advertising agency Chiat Day Mojo in Venice, Calif., and the $37 million New Jersey Aquarium in Camden. Firm also is program manager for $200 million of projects at Rutgers University, New Brunswick, N.J. *Peter Lehrer, Chmn.*

10 (7) **$411.75**

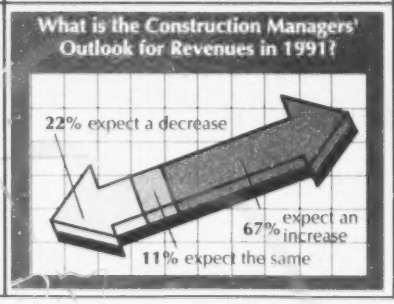
Fluor Daniel
100 Fluor Daniel Drive
Greenville, SC 29601
(803) 281-4400

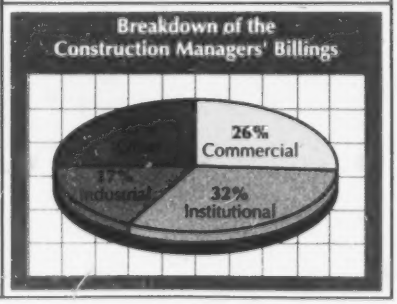
Company also is listed in the Engineers, General Contractors and Design/Builders categories. Current projects include a state women's prison in Madera County, Calif., a 280,000-sq.-ft. high school for Greenville (S.C.) Schools and the Greenville Performing Arts Center, a 2,000-seat concert hall in Greenville. *Vince Kontny, Pres., CEO*

4 (3) **$1,067.00**

Sverdrup Corp.
13723 Riverport Drive
Maryland Heights, MO 63043
(314) 436-7600

Current work includes three dormitory projects, totaling $31 million, for the Massachusetts State College Building Authority, the $106 million Baltimore Orioles baseball stadium, alterations to the Veterans Administration building in Washington, D.C., a 150,000-sq.-ft. federal courthouse in Alexandria, Va., and a 2 million-sq.-ft. terminal at Sky Harbor International Airport in Phoenix. *R. Smith Jr., Chmn., CEO*


What is the Construction Managers' Outlook for Revenues in 1991?
22% expect a decrease
67% expect an increase
11% expect the same



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GENERAL CONTRACTORS

GENERAL CONTRACTORS EKE OUT SMALL GAIN

Increase of only 2 percent follows a 14 percent rise one year earlier

1
(1)
$3,003.24

The Turner Corp.
633 Third Ave.
New York, NY 10017
(212) 878-0400

Company completed 226 buildings in 1990, representing a total of 28.2 million square feet. It had 425 active projects, and the average job size was $24 million. Projects completed include the 53-story Bell Atlantic Tower and the 55-story Mellon Bank Center, both in Philadelphia, and the $14 million Augusta (Ga.) Mall. *Alfred McNeill, Chmn., Pres, CEO; Harold Parmelee, Pres., Turner Construction Co.*

2
(2)
$1,070.58

The Clark Construction Group Inc.
7500 Old Georgetown Road
Bethesda, MD 20814
(301) 657-7100

Current projects include the $146 million Los Angeles Convention Center expansion; the $147 million National Archives Building in College Park, Md.; the $47 million reconstruction of the Warner Theater in conjunction with the construction of a 550,000-sq.-ft. office building in Washington, D.C.; and a $76 million county courthouse and office building in West Palm Beach, Fla. *A. James Clark, Chmn., CEO*

3
(4)
$1,009.98

Fletcher Construction (U.S.A.) Ltd.
707 Richards St.
Honolulu, HI 96813
(808) 521-7861

The company is a subsidiary of New Zealand-based Fletcher Construction Co. Ltd., and subsidiaries include Pacific Construction Co., Honolulu; Wright Schuchart Inc., Seattle; and Dinwiddie Construction Co., San Francisco. Projects under construction include the Grand Hyatt Wailea in Maui, Hawaii, the Getty Art Center in Los Angeles and a high-rise Honolulu residential condominium. *Alan Purdy, Managing Dir.*

4
(6)
$958.56

Centex Corp.
3333 Lee Parkway
Dallas, TX 75219
(214) 559-6500

Current projects include Veterans Administration medical centers in Augusta, Ga., Dayton, Ohio, Salem, Va., and Houston; the $74 million Great American Tower in San Diego; the $96 million Ben Taub Hospital in Houston; the $60 million St. John's Hospital in Oxnard, Calif.; the $24 million Museum of Arts addition in Dallas; and a $53 million federal prison in Minersville, Pa. *William Gillilan, Pres., CEO*

5
(5)
$868.00

Jones Group Inc.
6060 St. Albans St.
Charlotte, NC 28287
(704) 553-3100

Firm completed the 959-ft.-tall 311 S. Wacker in Chicago, the world's tallest concrete building. Current projects include the $162 million Manhattan Post Office expansion in New York City, the $105 million One Peachtree Center office building in Atlanta and the $130 million Judiciary Office Building in Washington, D.C. Parent firm is German-based Philipp Holzmann AG. *Johnie H. Jones, Pres., Chmn.*

6
(7)
$652.90

McDevitt & Street Co.
One Parkway Plaza
Charlotte, NC 28232
(704) 357-1919

Projects completed in 1990 include the 223-suite Embassy Suites Hotel in Pittsburgh, the 279-suite Sheraton Suites Cumberland in Atlanta, the 22-acre MCA/Universal Theme Park in Orlando, the 42-story Barnett Plaza in Jacksonville, Fla., a $125 million office and hotel project at the Fashion Centre at Pentagon City in Arlington, Va., and the North Florida Women's Center in Gainesville. *Luther Cochrane, Chmn., CEO*

7
(9)
$641.89

HCB Contractors
1401 Elm St., 46th floor
Dallas, TX 75202
(214) 747-8541

Projects completed include the $170 million 125 High Street in Boston, consisting of two office towers; a $17 million addition to Irving (Texas) Hospital; and the $73 million Albuquerque Plaza, consisting of a 22-story office building and hotel. Projects in progress include the J.C. Penney headquarters in Plano, Texas, and the conversion of a tire plant in Los Angeles to office and retail use. *Lawrence Wilson, Pres., CEO*

8
(8)
$621.23

BE&K Inc.
2000 International Park Drive
Birmingham, AL 35243
(205) 969-3600

Company also is listed in the Engineers and Design/Builders categories. Current projects include a $250 million Champion International paper mill upgrade in Canton, N.C.; the $24 million Dominion Bank Shares Tower in Roanoke, Va.; the $14 million International Home Furnishings Center in High Point, N.C.; and the Dupont Office Building in Charlotte, N.C. *Ted Kennedy, Chmn., CEO*

Turner Construction Co. was general contractor for the Bell Atlantic Tower in Philadelphia. It is owned by Bell Atlantic Properties.

9
(15)
$547.37

Perini Corp.
73 Mt. Wayte Ave.
Framingham, MA 01701
(508) 875-6171

Projects completed include the 25-story 150 West Jefferson office building in Detroit; the 15-story 343 Sansome Street office building in San Francisco; and three buildings in Nevada — a 35-story tower and three-story addition to the Holiday Hotel/Tower, the $45 million Sands Hotel and Casino Convention Center, both in Las Vegas, and the $100 million Flamingo Hilton Hotel and Casino in Laughlin. *David Perini, Chmn., Pres.*

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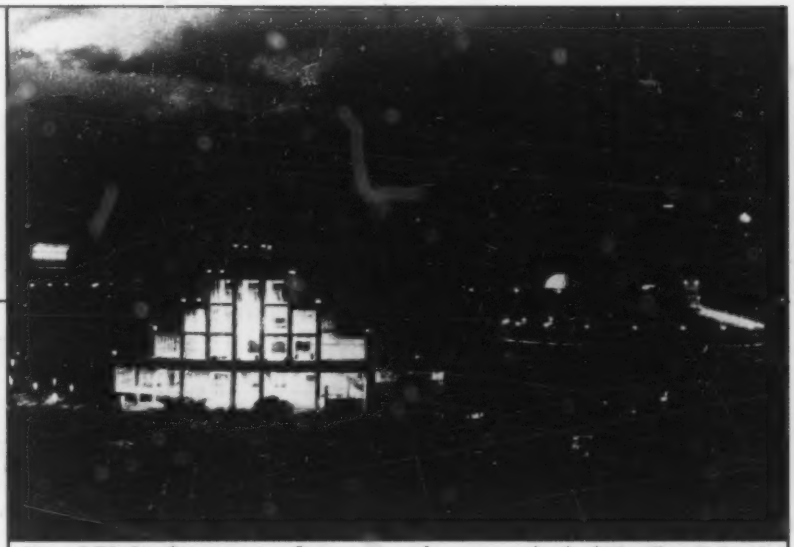
GENERAL CONTRACTORS

10 (12) **$546.63**
Koll Construction Co.
4343 Von Karman Ave.
Newport Beach, CA 92660
(714) 833-3030

Current California projects include the $20 million First Nationwide Office project in Sacramento, the $12 million St. Josephs Medical Office Building in Orange, a $15 million Pacific Bell office building in Anaheim, the $45 million Jamboree IV office building in Irvine and the $13 million 811 Wilshire office building in Los Angeles. *John Wills, Pres.*

11 (10) **$526.40**
McCarthy
1341 N. Rock Hill Road
St. Louis, MO 63124
(314) 968-3300

Current projects include a $64 million Motorola semiconductor plant in Chandler, Ariz.; the $170 million renovation of 104 buildings in the St. Louis school system; the $160 million Dartmouth-Hitchcock Medical Center in Lebanon, N.H.; the $58 million Watt City Center office building in Los Angeles; and the $53 million Emerald River Hotel and Casino in Laughlin, Nev. *Michael McCarthy, Chmn.*



***Hensel Phelps Construction Co.** was general contractor for the $85 million Colorado Convention Center in Denver.*

12 (3) **$523.38**
Fluor Daniel Inc.
100 Fluor Daniel Drive
Greenville, S.C. 29607
(803) 281-4400

Firm also is listed in the Engineers, Design/Builders and Construction Managers categories. Current projects include the 100,000-sq.-ft. Easlan Capital office building in Greenville, S.C., expansion of the south terminal at Greenville-Spartanburg Jet Port, and a 1 million-sq.-ft. corporate headquarters for Mobil Fairfax in Fairfax, Va. *Vincent Kontny, Pres., CEO*

13 (11) **$508.16**
M.A. Mortenson Co.
700 Meadow Lane North
Minneapolis, MN 55440
(612) 522-2100

Current projects include the $287 million Los Angeles Convention Center expansion (in joint venture with George Hyman Construction Co.), a $30 million paint facility for Boeing Corp. in Seattle, a $28 million health care facility at Childrens Medical Center, Minneapolis and a $23 million industrial building for Boeing in Algona, Wash. *M.A. Mortenson Jr., Pres., CEO*

14 (14) **$455.00**
The Whiting-Turner Contracting Co.
300 E. Joppa Road
Baltimore, MD 21204
(301) 337-5766

Projects to be completed this year include a $3.1 million bookstore addition in Northridge for the California State University Foundation; $8.3 million worth of renovations and additions to the State Farm Insurance office center in Costa Mesa, Calif.; an $8 million warehouse-to-apartment conversion in Richmond, Va.; and a $1.8 million expansion of a Nabisco Brands facility in Richmond, Va. *Willard Hackerman, Pres.*

15 (—) **$429.31**
Schal Associates Inc.
200 W. Hubbard
Chicago, IL 60610
(312) 245-1000

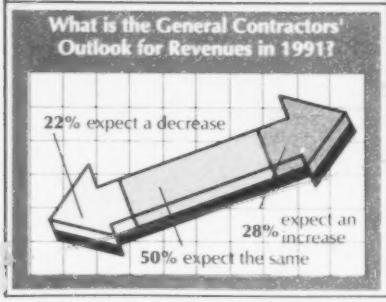
Current projects include the 50-story 77 West Wacker Building, the 38-story One North Franklin, the 41-story Savings of America Tower and the 29-story American Medical Association headquarters, all in Chicago; the 1.8 million-sq.-ft. Sears Merchandise Group home office in Hoffman Estates, Ill.; and the $29 million Northwestern University Materials and Life Sciences Facility in Evanston, Ill. *Richard C. Halpern, Chmn., CEO*

16 (41) **$427.50**
Hensel Phelps Construction Co.
P.O. Box O
Greeley, CO 80632
(303) 352-6565

Projects completed in 1990 include the $85 million Colorado Convention Center in Denver; a $14 million police communications center for the City of San Jose, Calif.; a $13 million Broadway department store in Santa Barbara, Calif.; the $18 million Microelectronics & Engineering Research Building at the University of Texas at Austin; and a $20 million State of Arizona office building in Phoenix. *Jerry Morgensen, Pres.*

17 (18) **$414.10**
Swinerton & Walberg Co.
580 California St.
San Francisco, CA 94104
(415) 421-2980

Current California projects include the 24-story 1111 Broadway Office Building in Oakland, a $13 million American Airlines terminal expansion in San Jose, the 20-story Federal Home Loan Bank Building in San Francisco and the 52-story Figueroa at Wilshire Building in Los Angeles. Completions this year will include a $19 million newspaper facility in Orange, Calif., for the *Los Angeles Times*. *Milo Gates, Chmn.; David Grubb, Pres.*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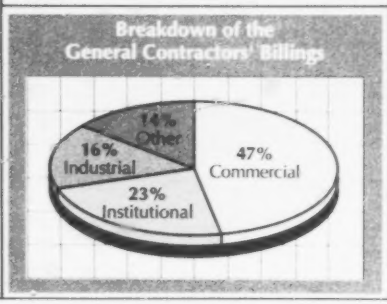
22% expect a decrease
28% expect an increase
50% expect the same



18 (—) **$413.64**
HRH Construction
909 Third Ave.
New York, NY 10022
(212) 751-3100

Projects completed include the $94 million 1325 Avenue of the Americas office building, the $80 million Carnegie Hall Tower and a $25 million health services building at Hostos Community College, all in New York City. Construction in progress includes the $130 million reconstruction of Madison Square Garden and nine school projects in the Bronx for the New York City School Construction Authority. *Irving R. Fischer, Chmn., CEO*

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19 (—) $410.00

Morse Diesel International
1515 Broadway
New York, NY 10036
(212) 730-4000

Current projects include the 50-story Chicago Title & Trust Center, the 35-story USG Building and the 27-story U.S. General Services Administration office building, all in Chicago; the 600,000-sq.-ft. One Schaumburg Place retail mall in Schaumburg, Ill.; the 43-story 101 Hudson Street office building in Jersey City, N.J.; and a Biomedical Research Laboratory at New York University, New York City. *Donald Piser, Chmn., CEO*

Only three of the top 10 firms managed to increase their volume in 1990.

20 (13) $370.50

The Pepper Cos.
643 N. Orleans St.
Chicago, IL 60610
(312) 266-4703

Firm completed a $40 million marine mammal complex at the Shedd Aquarium in Chicago. Projects under construction include a new $80 million headquarters for Kraft Inc. in Northfield, Ill., a $32 million upgrade and renovation of Marshall Field's State Street store in downtown Chicago and a new $20 million headquarters for Moore Business Forms in Lake Forest, Ill. *Richard Pepper, Chmn.*

23 (29) $341.59

The Weitz Co. Inc.
800 Second Ave.
Des Moines, IA 50309
(515) 245-7600

Current projects include the $23 million Oakbrook (Ill.) Center retail development, the $13 million Embassy Suites Hotel in Des Moines, the $35 million Ritz Carlton Hotel in Manalapan, Fla., the $33 million Figueroa Plaza II office building in Los Angeles, the $23 million Arizona States Court Building in Phoenix and the $21 million Aurora (Colo.) Criminal Justice Center. *Glenn DeStigter, Pres.*

26 (23) $312.00

Beers Inc.
70 Ellis St., N.E.
Atlanta, GA 30303
(404) 659-1970

Current projects include the $176 million Georgia Dome in Atlanta, the $115 million C&S Plaza in Atlanta, an $18 million expansion at the Mayo Clinic in Jacksonville, Fla., a $13.7 million acute care and mechanical building at Scottish Rite Hospital in Atlanta, a science building at Georgia State University in Atlanta and an expansion/renovation at Roanoke (Va.) Memorial Hospital. *L.L. Gellerstedt III, Pres.*

21 (16) $353.00

Huber, Hunt & Nichols
P.O. Box 128
Indianapolis, IN 46206
(317) 241-6301

Current projects include the construction of a $47 million, 1 million-sq.-ft. state office building and the $15 million exterior renovation of an existing state office building, both in Indianapolis; the 20,000-seat Pyramid arena in Memphis; a $25 million Indiana University adult ambulatory care center in Indianapolis; and an $11 million municipal building for the city of Plano, Texas. *Bruce Bennett, Pres.*

24 (24) $325.00

Rudolph and Sletten Inc.
P.O. Box 4637
Foster City, CA 94404
(415) 572-1919

Current California projects include a $9.5 million printing facility for the *Concord Times*, a 13,800-sq.-ft. Bank of America in Fremont, an $8.7 million data center for Clorox Co. in Pleasanton, a $5 million manufacturing facility for Digital Equipment Co. in Cupertino and a $31 million facility for Advanced Cardiovascular Systems in Santa Clara. *O.H. Rudolph Jr., Pres.; K.G. Sletten, Exec. VP*

27 (21) $293.73

PCL Enterprises Inc.
2000 S. Colorado Blvd.
Denver, CO 80222
(303) 753-6600

Company is completing the 42-story Dain Bosworth/Nieman Marcus Plaza in Minneapolis, a $42 million addition and renovation of the U.S. Postal Service general mail facility in Minneapolis, the $58 million Jefferson County Government and Courts Building in Denver, a $21 million renovation of the Denver Arts Center and a $20 million International Concourse at Sky Harbor Airport in Phoenix. *C.R. Tarr, Vice Chmn.*

22 (17) $346.33

Blount Construction Division
P.O. Box 949
Montgomery, AL 36101
(205) 244-4000

Major projects include a $208 million hospital facility at Madigan Army Medical Center, Ft. Lewis, Wash.; a $54 million prison in Wasco for the state of California; the $35 million Raymond Kravis Performing Arts Center in West Palm Beach, Fla.; the $50 million Pelican Bay Prison in Crescent City, Calif.; and the $61 million Hillsborough County detention facility in Tampa, Fla. *Terry Honan, Pres.*

25 (19) $324.00

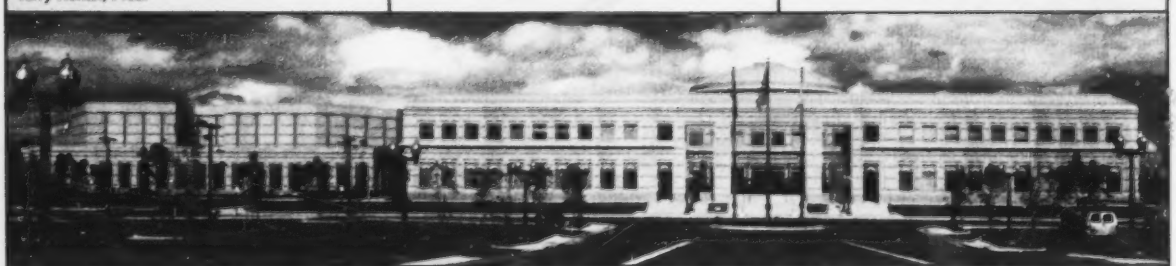
Walbridge Aldinger
613 Abbott St.
Detroit, MI 48226
(313) 963-8000

Projects under construction include the 44-story One Detroit Center in Detroit; the 150,000-sq.-ft. Kellogg Foundation corporate headquarters in Battle Creek, Mich.; a production facility for Fox Valley Press in Naperville, Ill.; and two Ford Motor Co. projects in Michigan, the Advanced Engineering Center in Allen Park and a research laboratory expansion in Dearborn. *John Rakolta Sr., Chmn.; John Rakolta Jr., Pres.*

28 (26) $251.62

Fru-Con Construction Corp.
15933 Clayton Road
Ballwin, MO 63022
(314) 391-6700

Current projects include the $18 million Sherwood Medical corporate office and the $105 million Southwestern Bell Data Center, both in St. Louis; a $40 million manufacturing facility for M&W Packaging U.S. in Cape Girardeau, Mo.; and a $29 million beverage manufacturing facility for Procter & Gamble in Sherman, Texas. *Manfred Lupp, Pres., CEO*



***Weitz Co. was general contractor** for the $21 million Aurora (Colo.) Criminal Justice Center.*

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GENERAL CONTRACTORS

29 (—) **$252.00**

Spaw-Glass Inc.
P.O. Box 25025
Houston, TX 77265
(713) 529-4451

Current Texas projects include the International Airlines Building at Houston Intercontinental Airport, the Cynthia Mitchell Pavilion for the performing arts at the Woodlands near Houston, the $14 million Astro Village Hotel in Houston, a $40 million convention center in Austin, a $10 million justice center in Irving and the $17 million Childress Prison in Irving. *Jesse Gonzalez, Pres.*

30 (—) **$245.60**

W.E. O'Neil Construction Co.
2751 N. Clybourn Ave.
Chicago, IL 60614
(312) 327-1611

Current Illinois projects include the 2.2 million-sq.-ft. Gurnee Mills retail mall, a $17 million library at DePaul University in Chicago, a $43 million MECA/Panasonic regional office/warehouse in Elgin, the $16 million Westwood Office Park in Lisle and a $21.7 million psychiatric hospital at the Edward Hines Veterans Administration Hospital in Hines. *William O'Neil, Chmn.*

31 (30) **$239.58**

Hardin Construction Group Inc.
1380 W. Paces Ferry Road, N.W.
Atlanta, GA 30327
(404) 264-0404

Current projects include the 27-story 1100 Peachtree Office Building, a $7.8 million distribution facility for Robert Bosch Corp., the renovation of the Penta Hotel and the 38-story Promenade Two office building, all in Atlanta; the $15.7 million Oglethorpe Power Office Building in Tucker, Ga.; and the 28-story Barnett Tower in St. Petersburg, Fla. *Earl Sheil Jr., Chmn., CEO*

32 (—) **$239.00**

Gust C. Newberg Construction Co.
2040 Ashland Ave.
Chicago, IL 60614
(312) 489-1400

Projects completed include the $54 million 255 Fifth office building in Cincinnati, the $99 million North Western Terminal office building in Chicago, the $25 million marine mammal pavilion at National Aquarium in Baltimore and the 43,000-seat new Comiskey Park for the Chicago White Sox. Under construction is the $118 million Lynwood Regional Justice Center in Los Angeles. *Francis Durocher, Pres.*

33 (28) **$232.54**

Kajima International Inc.
2100 N. Central Road
Fort Lee, NJ 07024
(201) 944-9800

Firm also is listed in the Design/Builders category. Current projects include the 210-room Ritz Carlton Hotel in La Jolla, Calif., and a $27.5 million regional office building for State Farm Insurance Co. in Winter Haven, Fla. *Ayao Katayama, COO*

34 (35) **$230.00**

Torcon Inc.
P.O. Box 609
Westfield, NJ 07091
(908) 232-8900

Current New Jersey projects include a 970,000-sq.-ft. Drug Discovery Facility for Schering-Plough Corp. in Kenilworth, a 470,000-sq.-ft. Life Science Building for Ciba-Geigy Corp. in Summit, a 254,000-sq.-ft. Selective Insurance Co. headquarters expansion in Branchville and a 350,000-sq.-ft. office building for Prudential Insurance Co. in Roseland. *Benedict Torcivia, Chmn., CEO*

35 (38) **$227.25**

Dick Corp.
P.O. Box 10896
Pittsburgh, PA 15236
(412) 384-1000

Current projects include the $129 million Pennsylvania Convention Center in Philadelphia, the $29 million Concourse A at Philadelphia Airport, a $50 million rehabilitation of the Rockland (N.Y.) Psychiatric Center, the 500-bed Lorton (Va.) Correctional Complex, a $33 million terminal at Rochester (N.Y.) Airport and an $88 million restructuring of an H.J. Heinz factory in Pittsburgh. *Dorsey Dick, CEO*

36 (37) **$225.51**

Sundt Corp.
4101 Irvington Road
Tucson, AZ 85726
(602) 748-7555

Current projects include an $8 million American Airlines regional reservation center in Tucson, an 800-bed, medium-security prison for the state of Arizona in Florence, a $17.2 million office building and parking structure at the Gainey Ranch Corporate Center in Scottsdale, Ariz., and the $8.7 million Western Financial Savings Corporate Headquarters in Irvine, Calif. *H.W. Sundt, Chmn.; Robert Sundt, Pres.*

37 (27) **$216.20**

Mellon Stuart Co.
One North Shore Center
Pittsburgh, PA 15212
(412) 323-4600

Current projects include a 400,000-sq.-ft. U.S. Postal Service mail handling facility in Aurora, Ill.; the Carnegie Science Center in Pittsburgh; a 384-cell, medium-security facility at Cook County Jail in Chicago; a five-story Florida Power & Light office building in Juno Beach, Fla.; a new terminal at Greater Pittsburgh Airport; and the 1.5 million-sq.-ft. Merck world headquarters in Oldwick, N.J. *Robert Luffy, Pres.*

***Austin Commercial was general contractor** for the Engineering Division headquarters of MCI Telecommunications Corp. in Richardson, Texas.*
Photo: Wes Thompson

38 (39) **$214.30**

Austin Commercial Inc.
P.O.Box 2879
Dallas, TX 75221
(214) 443-5700

Firm completed the 254,000-sq.-ft. Southwest Airlines headquarters in Dallas, the 830,000-sq.-ft. Oryx Energy Center in Dallas and the 400,000-sq.-ft. MCI Engineering headquarters in Richardson, Texas. Under construction are a 1 million-sq.-ft. Federal Reserve district bank in Dallas, a 664,000-sq.-ft. terminal expansion at DFW Airport and a seven-building complex at the IBM Development Center in Austin. *Ronald Gafford, Pres.*

39 (33) **$213.37**

Morrison Knudsen Corp.
Morrison Knudsen Plaza
Boise, ID 83707
(208) 386-8000

Firm also is listed in the Design/Builders and Construction Managers categories. Current projects include a 40-acre automated warehouse for the U.S. Army in Harrisburg, Pa.; a $517 million renovation of the Fort Drum Army base in Watertown, N.Y.; a $60 million maximum-security state prison in Beeville, Texas; and a medical complex for Kaiser Foundation Hospital in Richmond, Calif. *William Agee, Chmn., CEO*

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GENERAL CONTRACTORS

40
(43)
$206.04

Walsh Construction Co.
101 Oakview Drive
Trumbull, CT 06611
(203) 373-7900

Projects in progress include the $87 million Suffolk County Courthouse in East Islip, N.Y.; a $120 million federal office building in Oakland, Calif.; a $13 million renovation of an IBM office building in Poughkeepsie, N.Y.; a $41 million laboratory for Sandoz Pharmaceuticals in East Hanover, N.J.; and the $58 million San Joaquin jail complex in French Camp, Calif. *William J. White, Chmn., Pres.*

41
(34)
$200.00

Kraus-Anderson Construction Co.
525 S. 8th St.
Minneapolis, MN 55404
(612) 332-7281

Current projects include the 22-story Laurel Village residential complex in downtown Minneapolis and the 200,000-sq.-ft. Galleria specialty retail center in Edina, Minn. Scheduled for completion in 1992 are the 800-room Hilton Hotel and the 10-level Leamington Municipal Transit Hub and parking ramp, both in downtown Minneapolis. *Lloyd Engelsma, Chmn., CEO*

42
(22)
$199.32

Kitchell Corp.
1707 E. Highland
Phoenix, AZ 85016
(602) 275-7541

Firm also is listed in the Construction Managers category. Completed projects include a 150,000-sq.-ft. Western Digital wafer fabrication and research facility in Irvine, Calif., a 142-bed addition and a 135,000-sq.-ft. ancillary services building at Irvine Medical Center/AMI in Irvine. An 81,000-sq.-ft. College of Health Sciences Building at the University of Nevada-Las Vegas will be completed next year. *William Schubert, Pres., CEO*

43
(—)
$185.00

Manhattan Construction Co.
1717 S. Boulder
Tulsa, OK 74119
(918) 583-6900

Completed projects include the $64 million medical tower at St. Luke's Episcopal Hospital in Houston, a $7 million outpatient and laboratory facility at Baptist Medical Center in Oklahoma City, the $10 million Leesburg (Va.) Municipal Government Center and the $12 million 1530 Wilson Boulevard office building in Rosslyn, Va. Completions in 1992 will include a University of Texas trauma center in Galveston. *L.F. Rooney III, Pres.*

44
(—)
$181.00

The Lott Group
3500 S. Gessner
Houston, TX 77236
(713) 266-5688

Current projects include the Nemours Children's Clinic and an addition to the U.S. Naval Hospital, both in Jacksonville, Fla.; a laboratory facility for Bristol Myers in Wallingford, Conn.; a science laboratory building at Rice University in Houston; a Ritz-Carlton Hotel in McLean, Va.; the Square 677 office building in Washington, D.C.; and the 5 Greenspoint Plaza office building in Houston. *A.L. Jensen, Chmn.*

45
(—)
$176.00

Holder Construction Co.
900 Ashwood Parkway
Atlanta, GA 30338
(404) 399-4000

Projects recently completed in Atlanta include the $17 million Phase 1 of the Equifax Data Center, the $30 million National Service Industries headquarters, the $8 million Coca Cola Pavilion, the $36 million Atlanta City Hall complex and the $112 million 191 Peachtree Tower. The $62 million Universal Studios Florida in Orlando was also completed. *Robert Holder, Chmn.; Thomas Holder, Pres.*

46
(36)
$176.00

Oltmans Construction Co.
10005 Mission Mill Road
Whittier, CA 90608
(213) 948-4242

Projects completed in California include the $3.7 million GTE distribution center in Ontario, five tilt-up concrete buildings at Somerset Business Center in Paramount, a $14 million warehouse facility for Baxter Healthcare Corp. in Ontario, a $3.5 million warehouse for Mission West Properties in Riverside and six buildings for Fremont Properties in Downey. *R.M. Holmes, CEO*

47
(50)
$170.00

Marshall Contractors Inc.
75 Newman Ave.
Rumford, RI 02916
(401) 438-3500

Firm also is listed in the Design/Builders category. Current projects include the 300,000-sq.-ft. Hewlett Packard semiconductor production facility in Corvallis, Ore.; a 480,000-sq.-ft. addition at the Pfizer-Coty plant in Sanford, N.C.; and a 300,000-sq.-ft. research, quality control and test manufacturing facility at the BASF Biotechnology Center in Worcester, Mass. *John Marshall III, Pres.*

48
(38)
$162.00

Nielsen Construction Co.
3127 Jefferson St.
San Diego, CA 92110
(619) 291-1230

Firm completed the 17-story Hahn Tower in San Diego. Current California projects include the $12 million Paladion retail development in San Diego, two laboratory buildings totaling $6 million at Torrey Pines Science Center in La Jolla, the $25 million Grossmont Hospital in La Mesa and the 70,000-sq.-ft. La Terraza office building in Escondido. *Stephen Marble, Pres., CEO*

49
(47)
$153.30

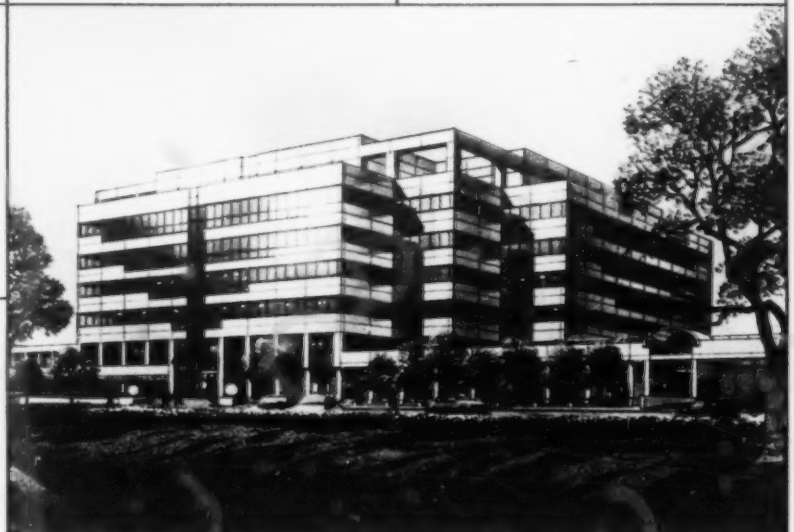
Charles Pankow Inc.
2476 N. Lake Ave.
Altadena, CA 91001
(213) 684-2320

Firm also is listed in the Design/Builders category. Current projects include the 40-story Honolulu Park Place residential condominium, the 405-room Squaw Creek Resort in Olympic Valley, Calif., the renovation and expansion of the Brea (Calif.) Mall, the renovation of and a 30,000-sq.-ft. addition to the Westminster (Calif.) Mall and an 800,000-sq.-ft. addition to Tyler Mall in Riverside, Calif. *Charles Pankow, Pres., CEO*

50
(40)
$148.82

Pavarini Construction Co.
585 W. Putnam Ave.
Greenwich, CT 06830
(203) 622-6700

Current projects include the 750,000-sq.-ft. Computer Associates office building in Islandia, N.Y.; the 500,000-sq.-ft. Sun Bank Center in Fort Lauderdale, Fla.; a 137,000-sq.-ft. office building for General Accident Insurance Co. of America in Melville, N.Y.; and a 40,000-sq.-ft. rehabilitation center for Burke Rehabilitation in White Plains, N.Y. *George Pavarini, Chmn.*



Pavarini Construction Co. was general contractor for the $80 million Computer Associates complex in Islandia, N.Y.

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SPECIALTY CONTRACTORS

SPECIALTY CONTRACTORS' VOLUME SLIPS 1 PERCENT

Slight decrease in volume reflects industry downturn

1 (1) **$1,023.00**

JWP Inc.
2975 Westchester Ave.
Purchase, NY 10577
(914) 935-4000

The firm's staff increased by 4,000 and revenues increased by more than $300 million during 1990. JWP is best-known for management of mechanical and electrical trades on health care and pharmaceutical projects. Subsidiaries include Dynalectric, Forest Electric, University Industries, Gibson Electric and JWP Information Systems. More than $1 billion was derived from non-C.I.I. categories such as highway and waste treatment projects. *Andrew Dwyer, Chmn., Pres.*

2 (3) **$303.89**

Harmon Contract
660 Kasota Ave. S.E.
Minneapolis, MN 55414
(612) 623-7300

This curtain wall and glazing contractor is a subsidiary of Apogee Enterprises, which also manufactures glass and fabricates windows for buildings and autos. Projects under construction include the Federal Reserve Bank of New York, the Fairmont Hotel in Washington, D.C., and a terminal expansion at Orlando Airport. Revenues are anticipated to be down in 1991 after a $36 million increase in 1990. *Gary W. Haider, Pres.*

3 (4) **$215.00**

Henkels & McCoy Inc.
Jolly Road
Blue Bell, PA 19422
(215) 283-7900

The staff of this communications engineering, construction and maintenance firm increased by 700 to 6,000. The firm has 19 offices including regional offices in Portland, Ore., Aurora, Colo., and Oxford, Mass. Revenues reported above do not include more than $100 million derived from mining, refining and chemical plant projects. *Paul M. Henkels, CEO, Chmn.; Kenneth Rose, COO, Pres.*

4 (5) **$151.97**

Baker Concrete Construction Inc.
900 N. Garver Road
Cincinnati, OH 45050
(513) 539-4000

This concrete construction contractor is best-known for its high-rise and industrial work. With offices in Houston, Indianapolis and Monroe, Ohio, the firm works mainly on owner-occupied facilities. Five percent of its revenue was derived from government jobs. Work is anticipated to be down by 20 percent in 1991. Current projects include Society Bank in Cleveland and an office building in Cincinnati. *Daniel L. Baker, Pres.*

5 (15) **$148.00**

Midwest Mechanical Contractors Inc.
2720 E. 88th Terrace
Kansas City, MO 64132
(816) 361-2500

This mechanical contractor derives 60 percent of its revenues from commercial projects, 30 percent from industrial projects and the rest from institutional projects. Recent projects include the Plaza Marriott and Central High School, both in Kansas City, Mo., and St. Joseph's Hospital in Hot Springs, Ark. *Michael Gossman, Pres.*

6 (—) **$127.91**

Bryant Universal Roofing Inc.
1245 S. 7th St.
Phoenix, AZ 85034
(602) 952-5070

This roofing and waterproofing contractor is a new addition to the list. Work is mainly concentrated in the West, where the firm has offices in nine cities, including San Diego and Las Vegas. The listed revenues do not include residential work, which represents 10.5 percent of total revenues. The privately held firm derives 75 percent of its revenues from reconstruction work. *Wayne Mullis, Chmn., CEO*

7 (6) **$123.00**

Limbach Constructors Inc.
4 North Shore Center
Pittsburgh, PA 15212
(412) 359-2100

The firm's focus of late has been on the HVAC, plumbing and fire protection of large arenas and convention centers. Projects include the One Detroit Center office building, the Georgia Dome in Atlanta and Kodak Building 38 in Rochester, N.Y. Twenty percent of revenues are from government projects. After a flat 1990, the firm anticipates a 15 percent increase in business in 1991. *Stephen B. Wurzel, Chmn., CEO; Charles L. Boyd, Pres., COO*

Industrial projects comprised 32 percent of volume in 1990, up from 22 percent in 1989.

8 (—) **$116.85**

Sauer Industries
30 51st St.
Pittsburgh, PA 15202
(412) 687-4100

Sauer Industries is a new addition to the list. The 630-person mechanical contracting firm concentrates on commercial high-rises, university and hospital projects. Half of the firm's work involves reconstruction; 20 percent is governmental. Offices are also located in Columbus, Ohio, Jacksonville, Fla., and Charlotte, N.C. *William Steitz, Pres., CEO*

The concrete contractor for the East Bank Tower *in Grand Rapids, Mich., is Baker Concrete Construction.*

9 (8) **$106.36**

Air Conditioning Co.
6265 San Fernando Road
Glendale, CA 91201
(818) 244-6571

The firm designs and installs HVAC systems in high-rise office buildings, hotels, laboratories and manufacturing facilities. The firm noted an increase in the number of projects where mechanical design consultation was required before construction drawings were completed. Government work accounted for 5 percent of the reported revenues. The firm has three California offices and one in Seattle. *John Aversano, Pres.*

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SPECIALTY CONTRACTORS

10 (10) **$100.88**
The Western Group
1637 N. Warson Road
St. Louis, MO 63132
(314) 427-6733

Renovation projects account for the majority of the work by this exterior masonry restoration, concrete restoration and waterproofing contractor. Three subsidiaries are Western Waterproofing Co., Western Waterproofing Co. of America and Brisk Waterproofing Co. Recent projects include reroofing the Turtle Bay Hilton in Hawaii and masonry restoration at the Sheraton Palace in San Francisco. *Ben Bishop, Chmn., CEO*

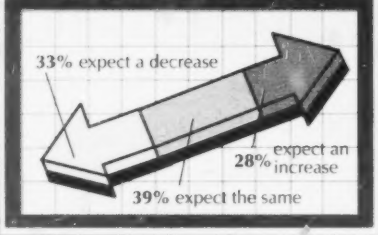
14 (—) **$62.60**
Murphy Co.
1340 North Price Road
St. Louis, MO 63132
(314) 997-6600

This mechanical contractor is a new addition to the list. Recent projects include work for Anheuser-Busch, Fujita Inc. and St. Louis University. Eighty-five percent of revenues came from owner-occupied projects and 10 percent from federal projects. A branch office is located in Denver. Design/build projects accounted for 10 percent of the firm's work. *James Murphy, Pres., CEO*

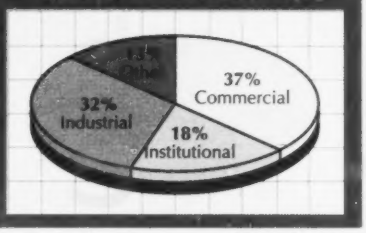
17 (7) **$57.30**
Cleveland Consolidated Inc.
1281 Fulton Industrial Blvd. N.W.
Atlanta, GA 30336
(404) 696-4550

This mechanical and electrical contractor is a part of the Cleveland Group, and has additional offices in Little Rock, Ark., Savannah, Ga., and Macon, Ga. Eighty-five percent of the firm's revenues are from industrial projects. $6.3 million in mining project revenues were not included the volume listed above. *J.R. Cleveland Jr., Pres.; Gary Clodfleter, VP; Ron Downing, VP*

What is the Specialty Contractors' Outlook for Revenues in 1991?



Breakdown of the Specialty Contractors' Billings



18 (18) **$56.35**
ISEC Inc.
P.O. Box 6849
Englewood, CO 80155
(303) 790-1444

The focus of this 480-person specialty interiors contractor includes health care, education and government facilities. Recent projects include the Beverly Hills Civic Center and the Ritz Carlton in Marina Del Rey, Calif. Forty-eight percent of revenues were derived from government projects. Subsidiaries include Wyoming Interior Systems and Northpark Millwork. *Lewis L. Anderson, Pres.; David Necker, Sec./Treas.*

11 (—) **$70.80**
Scott Companies
1919 Market
Oakland, CA 94604
(415) 834-2333

The firm, which also has offices in Gardenia, Calif., and Sparks, Nev., is a new addition to the list. This mechanical contractor works on high-rises, hotels and rail system support buildings. Government work accounted for 30 percent of the firm's revenues. Revenues listed above do not include more than $40 million derived from utility, water and waste treatment plants. *Joseph Guglielmo, CEO; Robert Nurisso, Exec. VP*

15 (14) **$61.64**
Guarantee Electrical Co.
3405 Bent Ave.
St. Louis, MO 63116
(314) 773-1111

This electrical contractor owns three subsidiaries, Guarantee Interiors, GISMO (Guarantee Industrial Systems) and GECO Engineering. Work in 1990 was 50 percent commercial, 40 percent industrial and 10 percent institutional. Projects include two Southwestern Bell Data Centers, St. Anthony Hospital and the Anthony Corrections Facility, all in St. Louis. *Charles W. Oertli, Chmn.; Fred Oertli Jr., Pres.*

19 (20) **$54.35**
U.S. Engineering Co.
3433 Roanoke Road
Kansas City, MO 64111
(816) 753-6969

The firm is a national mechanical contractor that performs almost 50 percent of its work on industrial projects. Fifty percent of its work is for owner-occupied projects, while reconstruction accounts for 20 percent of revenues. Other offices are located in Kansas City, Kan., Loveland, Colo., and King, N.C. Recent projects include a new mechanical building for Mobile Oil in Lenexa, Kan. *Henry Nottberg III, Pres.*

12 (—) **$69.79**
United Dominion Construction
6000 Popular Ave.
Memphis, TN 38119
(901) 685-5899

The firm, which is a new addition to the list, recently changed its name from AMCA International. Last year it acquired Aneco of Clearwater, Fla., and Blaine Construction of Knoxville, Tenn. The firm specializes in electrical contracting and construction of pre-engineered buildings. Recent projects include Dixie Lodgings at Disney World and the West Palm Beach Judicial Center. *I.B. Prude, Pres.*

16 (—) **$57.83**
Ivey Mechanical Co.
P.O. Box 610
Kosciusko, MS 39090
(601) 289-3646

This new addition to the list performs mechanical contracting services for commercial, institutional and industrial projects. Twenty percent of the firm's work involves reconstruction and 10 percent is for the government. Other offices are located in Atlanta and Nashville. The 650-person company is headed by a third generation of family management. *Joseph Ivey, Chmn., CEO*

20 (19) **$52.54**
John E. Green Co.
220 Victor Ave.
Highland Park, MI 48203
(313) 868-2400

This national mechanical and fire suppression contractor derived 45 percent of its revenues from industrial projects. Fire protection accounted for 13 percent of its revenues. Projects include the Toyota Tech Center in Ann Arbor, Mich., the Baraga Prison in Baraga, Mich., and the Ford Motor Co.'s Edison, N.J., plant. *Peter J. Green, Pres.*

13 (13) **$67.59**
Williard Inc.
375 Highland Ave.
Jenkintown, PA 19046
(215) 885-5000

The firm provides mechanical, electrical and sheet metal construction services, mainly for commercial and institutional buildings. Thirty-three percent of the firm's work is for reconstruction projects and 14 percent is for the government. Projects include sheet metal contracting for Two Liberty Place and the Inquirer Building, both office buildings in Philadelphia. *Joseph F. Doody, Pres.; Robert Keefrider, VP Finance*

Guarantee Electrical Company is providing the electrical contracting for the Cervantes Convention Center addition in St. Louis.

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